November/December 1997 $2.00

# MONTANA OUTDOORS

# Our Point of View

DONALD M. JONES

To make a difference is to feel a deep satisfaction. Each of us is aware of differences we have made, some large and others small. What we are often unaware of is the difference we make together.

As this country struggled to its feet and to regain its strength through the Great Depression, a vision was put into action. It was done at a time when the fate of this nation's wildlife resources was uncertain.

By 1930, most states had enacted wildlife conservation laws, created agencies to enforce those laws, and licensed hunters to finance conservation. It was not enough. So in 1937 Congress enacted a federal exercise tax on the sale of hunting equipment, guns, and ammunition.

The money was to be used to restore the nation's wildlife. It would be given to the state fish and wildlife agencies to be used along with hunters' license money. It could also be used for the education of hunters, young and old, about gun safety and to support shooting ranges.

The year 1997 marks the 60th anniversary of the Wildlife Restoration Act, also known as Pittman-Robertson after the legislative sponsors (page 13). Has it made a difference? Have we made a difference by paying the excise fee? You bet. The success of this conservation success story is unrivaled anywhere in the world.

Pat

**Patrick J. Graham, Director**
**Montana Fish, Wildlife & Parks**

MICHAEL S. QUINTON

*The northern hawk-owl is a rare winter visitor to Montana (page 7).*

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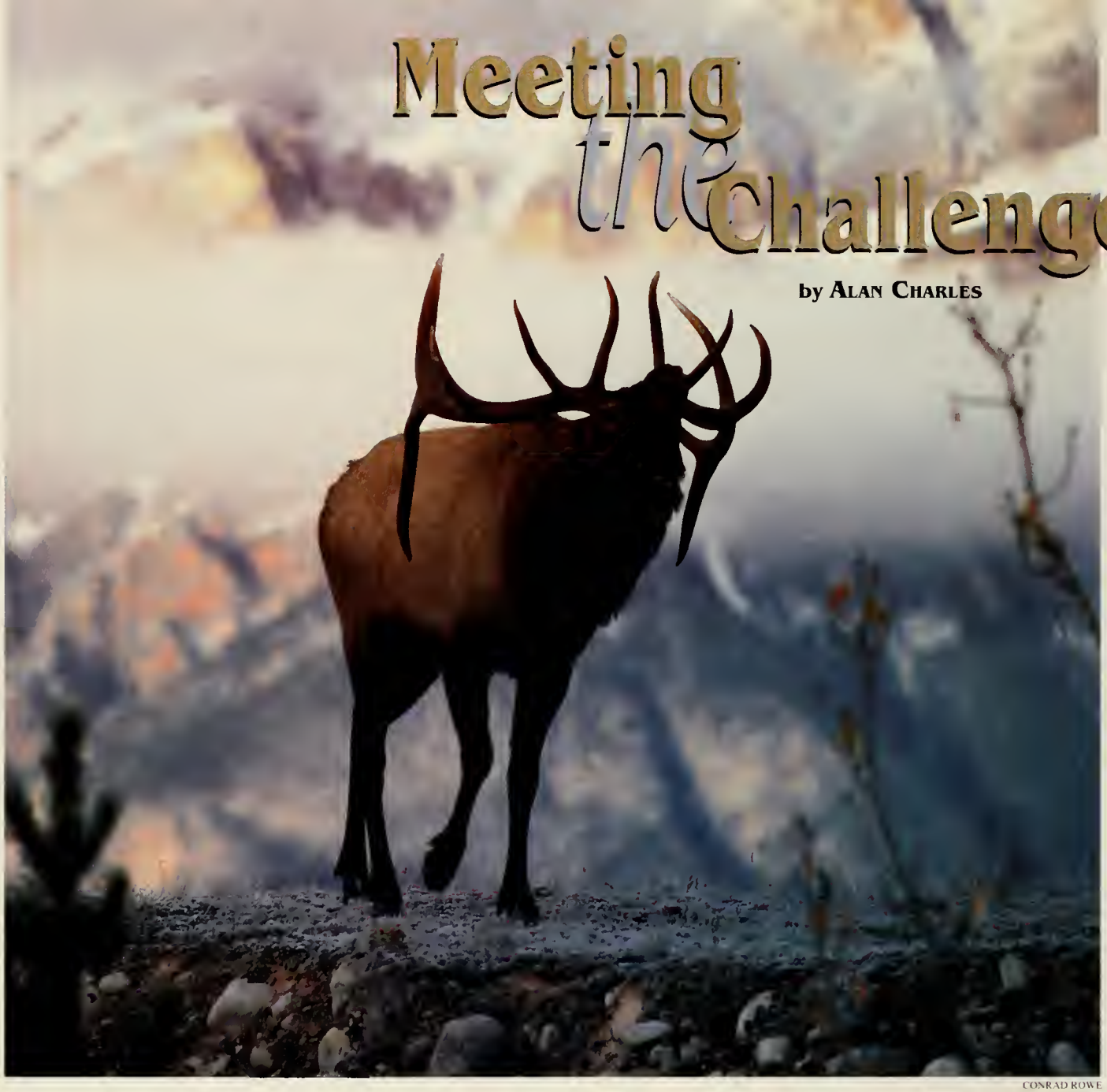
# Meeting the Challenge

by Alan Charles



CONRAD ROWE

***We pulled into Big Timber**, a friend and I, just after dark on a stormy October evening. It was cold and rainy and blustery in that early autumn way Montana has of warning you that real winter isn't far off. In the glare of the headlights, I caught a glimpse of something and slowed, then stopped, as a man in a wheelchair slowly pushed himself across the street in front of the truck.*

*We went on then, my friend and I, up into the Boulder River valley, where we camped beside the stream and slept restlessly through the night. I woke early and slipped out into the dawn, greeted by two inches of the year's first snow. For an hour I fished silently, aspen leaves floating past like little yellow boats carrying cargoes of snow.*

*That evening I shot a ruffed grouse that flushed ahead of my golden retriever, and we built a fire and cooked trout and grouse over the coals as three bull elk bugled from nearby ridges.*

*And later, after the flames died away and the night gathered 'round, I thought again of the man in the wheelchair, pushing his way across a wet, slippery street in downtown Big Timber. I wondered if he'd ever camped high on a mountain, or fished a silent stream in October, or heard the throaty bugle of bull elk on a snowy ridge. I wondered who he was, who his friends were, and what his life was like.*

It's easy to take things for granted. That frost-laced meadow where you plan to wait for elk at sunrise is just a short hike up over the first ridge. A brush-choked coulee that snakes out into the wheatfield is always good for a flush of pheasants, and all it takes is a slow, steady walk and then a final quick rush. And after the snow flies, when the honkers are swarming in the riverbottom, it takes only five minutes of hard huffing and puffing to pack a sack of decoys back into the stubblefields.

But it's not that simple for everybody. That short hike up the ridge, that push through a brush-choked coulee, and that little walk with a sack of decoys all represent huge obstacles to a number of hunters in our Montana hunting community.

In these times of political correctness, we often refer to these hunters as "physically-challenged." These are people who have suffered significant impairments, either at birth or some time later in life.

They are us, and we are them, and in a blink of an eye, a millisecond of time, that truth can strike home for any one of us, no matter who we are, how important we think our lives are, how secure our futures appear, how "unfair" it all might seem.

The Americans with Disabilities Act (ADA) was passed in 1990. Under a provision of the ADA, "to constitute a 'disability' a condition must substantially limit a major life activity." Here in Montana, hunting and fishing constitute what many of us feel are major life activities.

In 1993, Montana Fish, Wildlife & Parks (FWP) commissioned an independent consultant to review and evaluate the existing program for licensing of persons with disabilities. Part of the report stated: "In reviewing the 1993 Montana Statutes for the FWP, no discrimination of anglers and hunters who are disabled was found....The ADA does not provide specific answers on how to provide a hunting and/or fishing licensing program that does not discriminate against persons with disabilities. It does provide guidelines on how to protect the rights of persons with disabilities....Much of what is required to insure compliance to the ADA *must be done from the heart as well as the mind of the agency....*"

What are the needs of Montana's hunters with disabilities? What can Montana's private landowners do to provide access opportunities? How can we, the entire community of Montana hunters and recreationists, better understand the needs and desires of our physically-challenged comrades?

Perhaps we can all learn much by simply listening. That's what I did recently when I attended a disabilities awareness workshop in Billings. The workshop focus was "Hunting in Montana Is for Everyone," and the people attending had many different interests.

I listened to the outfitter who had guided disabled hunters and wanted to do more, to the rancher who wanted to know what he could provide, to Dave Baskin, manager of disabled shooting services for the National Rifle Association, and to Tom Wright, the Alberta-based designer of adaptive equipment for physically-challenged hunters.

But most of all, I listened to the hunters themselves, and particularly to Scott Birkenbuel and Ralph Martin, two mobility-impaired hunters from Bozeman who founded an organization in 1996 called Access Montana Outdoors, Inc. (see sidebar). What came through loud and clear to me, both from Ralph and Scott and from the many other hunters with disabilities with whom I've talked, is that even more than the loss of a limb or the loss of mobility, the issue of holding onto the tradition of the hunt, of maintaining the teamwork of

## ACCESS
## Montana Outdoors, Inc.

Access Montana Outdoors, Inc., founded by Scott Birkenbuel and Ralph Martin in 1996, has the following mission statement: To provide outdoor recreational opportunities, information, fellowship and assistance to physically-challenged sportspersons, their families and friends. To provide information, consulting, and management to other outdoor recreational groups concerning physically-challenged sportspersons, their families and friends.

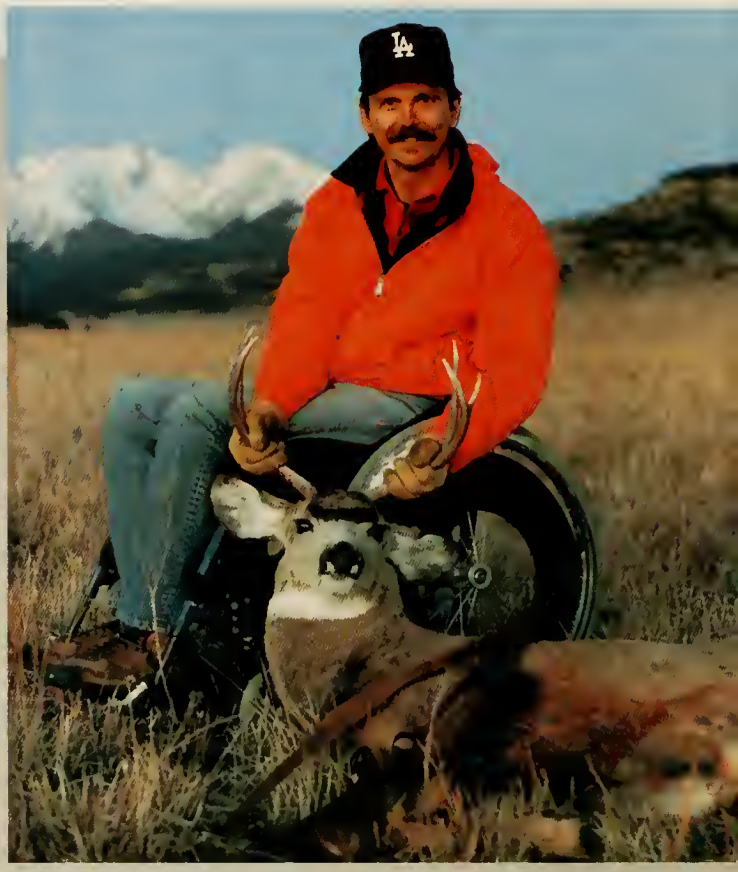
The Spring 1997 edition of the organization's newsletter "The Bullet" contained articles on the following topics:

- "Hunting in Montana Is for Everyone," a workshop held April 25-27, 1997, in Billings.
- An explanation of FWP's disability license/hunt from a vehicle permit system.
- Elk hunting opportunities for people drawing special elk permits.
- Plans for a possible Madison River flyfishing trip.
- A listing of several hunting trip opportunities.
- A description of the Eagle Mount Field & Stream Program near Billings.

For more information about Access Montana Outdoors, Inc., or to share information about issues and opportunities pertaining to the physically-challenged recreational community, contact Scott or Ralph at 200 South 23rd Avenue, Suite D-7/111, Bozeman, MT 59718; (406) 587-5881 (Scott)/(406)587-6143 (Ralph).

# Maintaining the Tradition

*Editor's note—Scott Birkenbuel and Ralph Martin, both raised in families of rugged hunters and anglers, suffered automobile accidents in their twenties that dramatically changed their lives and the challenges they face as outdoorsmen. They agreed to share some of their reminiscences and perspectives on hunting with us.*



*Scott Birkenbuel*

**Scott Birkenbuel**—Shortly after dawn, we slip down a dry ditch on a crisp November morning. My brother and I follow our father and his brother, much the same way they followed their father down this same ditch many falls before. We hear our footsteps crunching on the frosted ground, see the clouds that are our breath, and my heart pounds in my chest. Our father signals us to stop. We crouch, and wait, and then at the signal, we stand as the ducks explode off the water. Shots ring out. We wade out into the cold water to retrieve our quarry and watch as the rest of the flock flies up the Sun River in the warm glow of the morning light.

I was 12, and my brother was 9, on that day of my first duck hunt. The hunt took place on a ranch about a mile from my great grandfather's homestead, where he taught his boys to hunt, and they taught my father and his brothers. For the next twelve falls, I jump-shot backwaters, walked through stubblefields, and glassed the massive Missouri River breaks looking for, studying, and hunting the waterfowl, upland gamebirds, and big game of central Montana.

When I was 24 years old, I was working in eastern Montana, surveying for geophysical companies. My work took me into the field every day. We kicked big whitetail bucks out of the riverbottoms, flushed turkeys, and coaxed curious antelope to within 30 yards by waving survey flagging on stakes from windy hilltops. That summer also found me in a hospital bed with a broken back after an automobile accident, leaving me a paraplegic.

As I lay in that bed, I knew my life had changed. But what was in store for me, I had no idea. Time passed and my life started to come back to me. Through the undying love and strength of my wife, Kia, I was able to overcome the physical and emotional injuries the automobile accident had left with me. Yet, as each fall came and the hunters went into the field, I felt like I was once again a young boy, sitting on the porch waiting for their return.

Then one fall, six years after my accident, my brother called me and said, "We're going hunting! Can you come up to my place this weekend?" I said "Sure," but about the hunting...I didn't know.

Early Saturday morning, at my brother's home, he

friends and family who are real hunting partners, is often the most difficult part of the challenge.

For most people, the hunt has always meant more than just being able to kill an animal. Faced with tremendous obstacles, a disabled hunter finds the hunt even more a tapestry of moments, a puzzle of pieces that fit together to form a memory.

As we assess the needs of our disabled hunting

helped me up into the 4X4 and we headed out into the darkness. We arrived at a ranch on the Marias River where my brother had told a landowner about me and my needs. The rancher let us hunt from the ranch trails that led down through the river breaks and hayfields. I shot a doe that day and was as proud a hunter as I was when I took my first deer eighteen years before.

I have hunted every year since that day and only regret the loss of those six years when I doubted I would ever hunt again. Through the help of my family and friends, understanding landowners, thoughtful organizations, and public agencies, I have been able to get off the porch and go back into the field. Today I am able to participate in and teach to my children the generations-old tradition that is Montana's hunting life.

**Ralph Martin**—As a fourth-generation Montanan, my roots are spread across the state. My father was raised in Missoula, my mother in Broadus. I grew up in Troy, and there still exists a great tenderness for the

*Ralph Martin (left) and family*

northwest country in my heart. Due to summers I spent working on the Diamond Ring Ranch for Bill Grieves, under the direction of my uncle, Tom Dudley, I also appreciate the ruggedness and far horizons of eastern Montana.

My earliest and fondest memories are those about the outdoors: camping out in Boy Scouts, hiking the Bob and the Cabinets, fishing the Blackfoot with my grandfather, dad, and brothers, and hunting in Daisy Creek where the memories stretch back almost 40 years now. A Douglas-fir has my great-uncle Preston's name carved in it up on Daisy Pass. More recently, my son had his picture taken on the ridge above the old mine, where we used to set up camp when his great-grandfather was alive.

My accident happened opening day of hunting season 16 years ago on the Prospect Creek Road. I had a great morning hunt, but on the way into town, a friend took a corner too fast. Three days later, I "woke up," and the world contained some new and interesting challenges for me, not the least of which was, how would I continue to hunt and fish?

Turned out, it wasn't all that much of a problem. Just throw me on a horse or load me into a pickup. I've hunted using a snowmobile, and even had a friend stick me in a tree stand with the bucket on his John Deere tractor during bow season! More recently, I enjoyed a quiet afternoon up at Hyalite Lake with my wife and a fishing pole.

Some things never change; hunting and fishing still take place outdoors, bucks rut at the end of the season, the big one almost always gets away, and I can never get enough of the outdoors. True, I cannot walk to the top of a ridge, but thanks to a great family and friends, I've topped out quite a few. It's impossible to write the script, but the stage is set, and when the hunt is over there will be another memory for the book.

My stage this year is a private ranch outside of Gardiner for a late-season cow elk hunt with my son. I look forward to this with great anticipation, more than for any of my other potential hunting trips this year.

Regardless of my physical state, with forethought and planning, I can hunt, fish, and enjoy the outdoors. That I can do this on public property and that private landowners are willing to let me access their farms and ranches is something to be thankful for. The future looks bright, and I am excited about the possibilities, not only for myself but for others with disabilities as well.

community, we need to view hunting access as more than just a place where a hunter can go to kill an animal. We need to think about what the whole hunt means to us, and challenge ourselves to find ways to provide disabled hunters with that whole hunting experience.

How can we involve disabled hunters in our own hunts? How can we share that wealth of access we so often take for granted, and create opportunities for others to share? How can

we become more aware of the needs of others who might not have access to the same hunting opportunities we have?

These choices, I think, must indeed come as much from the heart as from the mind. Whether we act as individuals or as an agency, our actions can make a difference. A hunter speaking at a rod and gun club meeting, a rancher setting aside a pasture for hunters with disabilities, a biologist crafting a block management contract, a warden explaining regulations to a public group—we all have an opportunity to address the needs of disabled hunters.

Ultimately, if we act for the right reasons, we do it not out of pity, not because some law says we must, but because our hearts tell us we must. Hunting and fishing are indeed major lifetime activities for many Montanans. Think about it next time you hike that ridge or set out the decoys. Think about how you might be able to share that experience.

*It's December, 1996, and the temperature hovers in the teens just after noon. I'm at Fort Keogh, the Livestock and Range Research Station near Miles City, taking part in the annual Fort Keogh Pheasant Hunt hosted for senior citizens and disabled hunters from around the region. I'm standing beside a man in a wheelchair, a veteran of two wars fought on foreign soils. The wind is sharp, and I try to shield him from the knife-edged cut of it. We're waiting, he and I, for pheasants to flush ahead of the other hunters working toward us through the thick cattails. His eyes water from the wind, and his hands shake from the cold, but he insists on waiting.*

*A hen flushes, then another, and another, and finally a rooster, but he never raises his gun, just watches and smiles. I don't find out until later that he never even loaded the gun. He just wanted to be there, a place he'd been many times before —outdoors, hunting, a part of it all.* ■

# FWP's Licensing Program for Disabled Persons

Montana has offered licenses for people with disabilities since 1983. An ongoing challenge of this program has been to develop fairness and consistency in the way it is administered. An evaluation conducted by an independent consultant in 1993 confirmed that the program is consistent with federal guidelines, and we continue to review our policies to ensure the needs of disabled outdoor recreationists are being addressed. The major provisions are as follows:

## Resident Person with a Disability Conservation License - $4.00

This license authorizes the holder to fish and to hunt upland gamebirds (excluding turkey), and serves as a prerequisite to purchase a deer "A" license and/or a general elk license at one-half the full price.

## Permit to Hunt from a Vehicle - no charge

The eligibility requirements for this permit are very specific. FWP has final decision-making authority on awarding it. The permit authorizes the holder to hunt (shoot) from within a self-propelled vehicle and from a vehicle parked on the shoulder, berm, or borrow-pit right-of-way of a public highway, except a state or federal highway. No shooter may fire across any public highway or hunt on private property without landowner permission. Hunters using this permit must be accompanied by another person to assist with field-dressing and/or recovery of a wounded game animal when hunting big game. Any vehicle from which a disabled person using this permit is hunting must be conspicuously marked with an orange-colored decal (provided by FWP) displaying the international symbol for disabled persons on the front, rear, and each side of the vehicle.

Nonresidents desiring to obtain a Permit to Hunt from a Vehicle must submit an application form provided by FWP. No other forms or documents will be accepted.

Applicants must sign the application with a notarized signature. Each application must also be accompanied by a notarized certification from the applicant's physician stating which criteria set forth under MCA 87-2-803 qualify the applicant. The physician must also certify that the applicant is capable of holding and firing, without assistance from other persons, legal firearms or legal archery equipment.

For more information about FWP's Licensing Program for Disabled Persons or to obtain a copy of FWP's "Crossing the Barriers" brochure, contact: Montana Fish, Wildlife & Parks, 1420 East Sixth Ave., Helena, MT 59620; (406) 444-2535.

# Winter Visitors

by Dave Carty

IT HAPPENED LONG ENOUGH AGO that now I'm beginning to wonder if it really happened at all. I'd driven to the overlook on the west side of Ennis Lake, ostensibly to glass for waterfowl. It was nearing Thanksgiving, and the lake, when it's not frozen at that date, is sometimes full of ducks and geese. The wind was howling, and at first the specks of white fluttering above the reservoir looked like scraps of bed sheets someone had hurled into the wind. Then I looked again. Snow geese, obviously, birds that occasionally visit the area. But something wasn't right. I stared hard through my binoculars, trying to make out the birds nearly a mile away. They didn't have black wing tips, the identifying mark of snow geese. The birds were swans. Tundra swans.

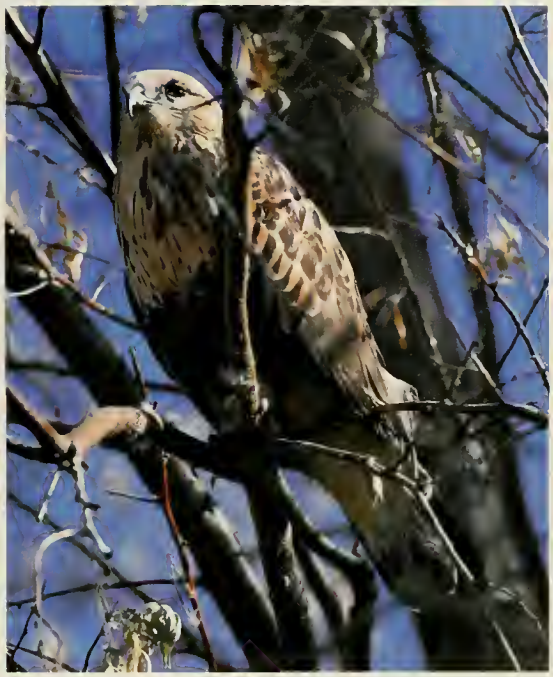
DENVER BRYAN

How many were there? My memory, admittedly not the most reliable instrument I own, scrolls up this figure: hundreds. I've learned since that, although large numbers of swans do visit Ennis Lake as well as other parts of the state, it's not an everyday occurrence. Were there really as many swans that blustery late November afternoon as I seem to recall? I guess I'll never be able to prove it. More important: What were they doing there in the first place?

It's a question that could be asked about a host of other birds that migrate from the Far North to Montana every winter, when local

BILL MARCHEL

DONALD M JONES



JOHN G OBREY JR

**Opposite page:** *Tree sparrows breed in the tundra of the Far North and migrate to the relative warmth of Montana in search of seeds.* **Above:** *Snowy owls drift south from the Arctic when mice, voles, and lemmings are in short supply or safely hidden under the snow.* **Right:** *Rough-legged hawks are common winter visitors to Montana prairies and marshes.*

birds are long gone, off to sunny locales in southern California or the Gulf of Mexico. A dozen or more species of birds use Montana and Wyoming as the southern terminus of their migration, my swans among them. The waterfowl species stick around what open water they can find, and many of the seed eaters hit the dinner party circuit, courtesy of local bird feeders. They stay until their internal clocks usher them back north again, long before most of us have shed our winter parkas.

Some of Montana's winter visitors are meat eaters. In fact, a big percentage of the birds that drift south during the winter are raptors, birds like snowy owls, whose huge white forms and piercing yellow eyes make an immediate impression on anyone fortunate enough to see them; and scores of bald eagles, which filter into Montana and station themselves in dead cottonwoods on the banks of rivers, ever watchful for fish and waterfowl.

But perhaps the most common winter raptors are rough-legged hawks, birds that hail from somewhere around the Arctic Circle (see *Montana Outdoors*, November/December 1993). Despite their abundance from October through March, rough-legs are easy to miss. Their genus name, *Buteo*, means they're broad-winged hawks, which makes them right at home with many of the other hawks that soar above the prairies of Montana. What's more, they're predominantly brown—light brown in their more common light phase, and dark, chocolate brown in their less common dark phase. You've probably seen one and not realized what it was, or lumped it with the two other hawks most people are familiar with: red-tailed hawks and northern harriers, or marsh hawks.

But the rough-leg's plain brown clothes mask the fierce soul of a bird that will do just about anything to get what it wants, which in this case is food. The southward migrations of rough-legs are determined by availability of prey in their home territory. Most northern hawks and owls, rough-legs included, dine on microtine rodents—voles, meadow mice, and lemmings. Populations of these rodents are notoriously cyclical, with rapid increases often followed by precipitous declines. Snow cover, too, plays a part, since rodents hidden under a blanket of deep snow are safe from most hawks and owls.

When rodent populations hit the skids, or when deep snow makes them hard to get, rough-legs head south for a more reliable food supply. That's what they have in mind when you see one perched on a fencepost or hovering above the prairie:

BILL MARCHEL

**Above:** *Flocks of snow buntings are often seen foraging for seeds along windswept roads in open country or visiting winter bird-feeding stations.* **Opposite page:** *Bald eagles (top left) concentrate in winter along ice-free stretches of rivers, where they prey on fish and waterfowl. Gyrfalcons (lower left) breed in the Arctic and occasionally make their way to Montana in search of a more reliable food supply. The northern hawk-owl (right), an Arctic owl that resembles a hawk, has been documented fewer than 20 times in Montana.*

food. It's a good time to get a close look at them. Unlike the native Montana hawks, rough-legs are relatively easy to approach, since they have not yet developed a strong fear of man.

When it comes to travel arrangements, raptors have it easy, despite the distances they cover. Hawks and eagles soar and glide, an energy-saving method of transportation that is one of the more efficient forms of flight. Many of these birds follow routes that have been used for millennia, catching updrafts and thermals that allow them to soar hundreds of feet for every flap of their wings. One such route is along the Bridger Mountains east of Bozeman, where observers may sight dozens and sometimes hundreds of hawks and eagles in a day.

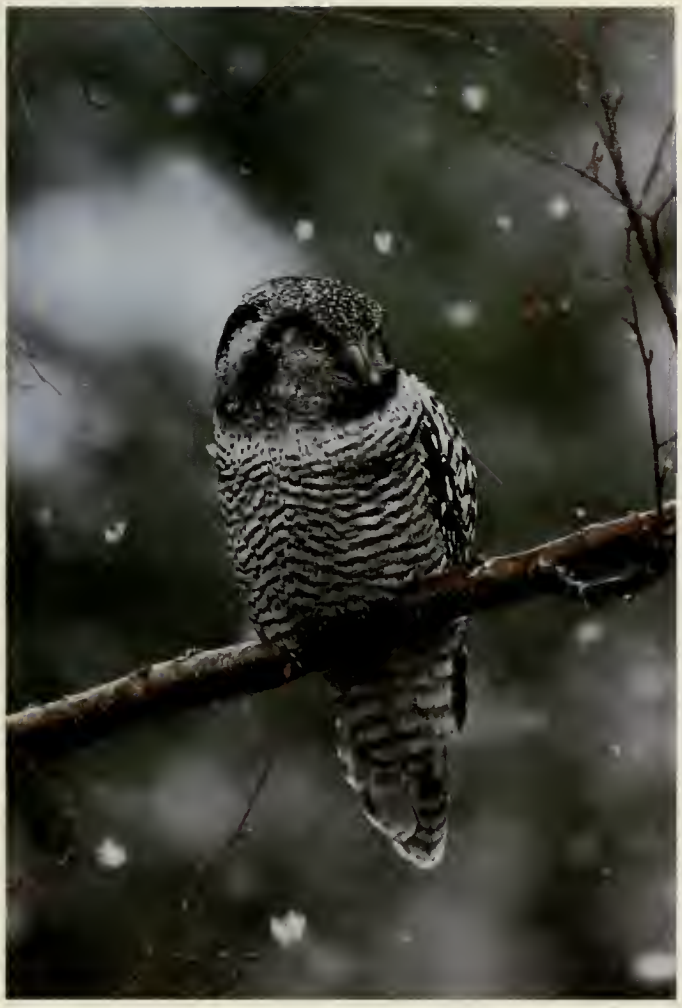
Tim Pattison, a country and western dance instructor and avid birder from nearby Bozeman, has made the trip several times. "Watching the eagles is great," he says. "The Bridgers are the premier golden eagle migratory flyway in North America. On a good day you might see a hundred eagles. It's a good free ride for the birds. There's a lot of lift where the prevailing winds come in and hit the mountains and go up. Some of the birds fly by on either side of the ridgeline almost at eye level."

HOW DO THE BIRDS KNOW WHEN TO LEAVE? HOW DO THEY FIND THEIR WAY ACROSS THOUSANDS OF MILES OF WILDERNESS TO THE BIRD FEEDER IN YOUR BACKYARD? AND HOW DO THEY KNOW WHEN IT'S TIME TO RETURN HOME?

Although raptors can count on thermals to save at least some of the energy they burn up during their migration, Montana's smaller avian visitors have to get here the hard

JEFFREY RUCH

DENVER BRYAN



MICHAEL S. QUINTON

way—by pumping their little wings as fast as they can. That a robin-sized bird like a snow bunting or the even smaller tree sparrow can make it to Montana from the Arctic or thereabouts without exercising itself to death is wonder enough, but they not only make it, they seem to thrive.

Part of the reason is how they prepare for the journey. Snow buntings, like many small birds of the extreme north, molt quickly, unlike most other birds, which lose a feather or two at a time. This leaves them flightless for a few weeks, but when their migration begins they're ready with a brand new set of feathers for the journey. Buntings and other small migrants also spend the long, sunny Arctic days packing on fat, enough to significantly increase their body weight. Most of that extra weight gets burned off on the journey down, for the birds often fly for hours at a time without rest.

It's too bad, because most of them could stand the extra insulation. Although Montana winters may be mild by Arctic standards, they're nothing to sneeze at, and the tiny bodies of snow buntings, tree sparrows, redpolls and others expose a proportionately larger surface area to cooling then the bodies of the much larger hawks and owls. This means the little guys must constantly search for food. But if it gets *too* cold, or if snow buries their food supply, they'll keep heading south, into Wyoming or Colorado.

Why these birds and others winter in Montana is fairly well understood—they come for the food. But how they find their way here is not, for the mechanics of migration are difficult to study. How do the birds know when to leave? How do they find their way across thousands of miles of wilderness to the bird feeder in your backyard? And how do they know when it's time to return home?

No one seems to have hard and fast answers to these questions, but it's possible the birds are being guided by the earth's magnetic field, the sun and stars, as well as their finely honed senses of sight and hearing. That so many get to where they're going proves that whatever it is they're using for navigation almost always works. When it doesn't, birds, like humans, can become disoriented. Storms and cloudy

JIM PLETA

*Bohemian waxwings (above), and their close cousins the cedar waxwings, flock to fruit-bearing shrubs and trees in winter. Bohemians are slightly larger and have rusty or cinnamon undertail coverts, compared with white in cedar waxwings.*

weather have sent flocks hundreds of miles off course, with sometimes fatal results.

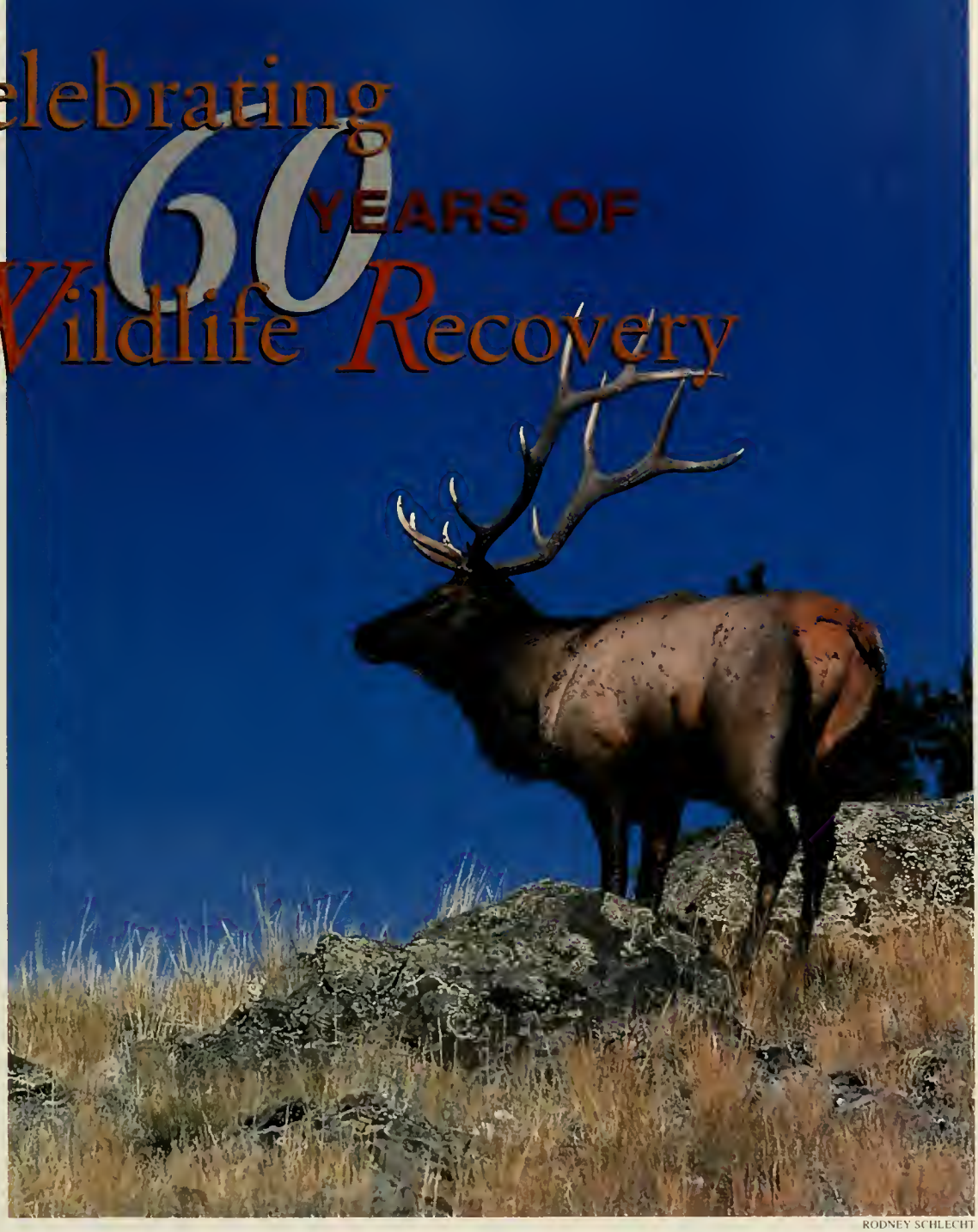
Of course, some migrants are so rare that the loss of even a few would be tragic, if not to the species itself, then at least to the hard-core birders who comb the prairies and rivers looking for them every year. These are birds like the gyrfalcon, a regular but uncommon winter visitor, and the northern hawk-owl, an Arctic owl that, well, looks like a hawk.

But perhaps the most colorful winter migrant, and one of the most recognizable, is the Bohemian waxwing. Actually, Bohemians are similar in appearance to their cousins, the cedar waxwings, which live year-round in Montana. For the record, the Bohemian is slightly larger and has rusty-red undertail coverts, compared with white in the cedar waxwing.

You'll spot both birds flocking to mountain ash trees, chokecherry bushes, crabapples, and any other shrub or tree that still has desiccated fruit in December and January. They'll stay until the food is gone, and then one day they'll be gone, too—off to another banquet in another part of town.

In March or April, some of these birds will have already begun drifting back north. By the time anything approaching spring and warm weather hits our fair state, they'll be long gone. Hard to imagine they wouldn't want to spend a summer here, when we could really show them the sights. But they've got a long way to go and a family to start once they arrive back home, and a short summer's rest ahead of them before their migration south begins again. ■

# Celebrating 60 Years of Wildlife Recovery



RODNEY SCHLECHT

by William Phippen

The valley below is called Paradise. And if the thousands of elk from Yellowstone National Park and adjacent Montana lands that now spend each winter seeking nourishment on the chain of grassy, windswept benches above the valley were given a vote, you would probably find little argument with the selection of that name.

The Dome Mountain Wildlife Management Area (WMA)—one of Montana's most important elk winter ranges—forms the northernmost link in this chain. Until a decade ago, much of this winter range was in private ownership, and the elk seeking out its high grasslands had to compete with cattle for sustenance. Then in 1986, Montana Fish, Wildlife & Parks (FWP) purchased the first 2,600 acres of what would become the WMA.

Two years later, following the sweeping Yellowstone fires of 1988 and a winter marked by heavy snow, bitter cold, and a subsequent massive die-off of Yellowstone Park elk, the Rocky Mountain Elk Foundation spearheaded a cooperative effort to acquire more winter range. FWP's role in this effort included purchasing an additional 2,080 acres of land at Dome Mountain.

In Montana, the act has bolstered the wildlife habitat base, restored dozens of wildlife species, funded wildlife research, and helped expand FWP's hunter education, shooting range, and block management programs.

This winter range acquisition, made possible through Federal Aid in Wildlife Restoration Act (Pittman-Robertson) dollars in addition to state hunting license revenues, has become increasingly important to the northern Yellowstone elk herd. Whereas in the 1970s and early 1980s fewer than 500 elk typically wintered there, now upwards of 2,000 to 3,000 enjoy the security and solitude offered by this 4,680-acre piece of "paradise."

When the Wildlife Restoration Act was passed in 1937, few people would have predicted the enormous impact it would have on hunting and wildlife across the nation. In Montana, the act has bolstered the wildlife habitat base, restored dozens of wildlife species, funded wildlife research, and helped expand FWP's hunter education, shooting range, and block management programs. As we celebrate the 60th anniversary of this landmark act, it seems appropriate to review some of its accomplishments:

• In 1910 there were thought to be fewer than 3,000 elk in Montana north of Yellowstone National Park. Through protection, transplant programs, and purchase of critical wintering areas, elk numbers have increased to over 100,000.

• In 1924 Montana's antelope population was estimated at 3,000. Today the population stands at more than 100,000.

• In the 1930s, both white-tailed and mule deer were scarce in most of eastern Montana. Mule deer now inhabit more than 90 percent of the state, and whitetails are found in every county and along every major watercourse.

• By 1930, Montana's once-abundant bighorn sheep had been reduced to remnant bands. Today we have about 8,000 bighorns, with herds in every one of FWP's seven administrative regions.

• In 1900, moose were believed nearly extinct in the Rocky Mountains south of Canada. No moose hunting was permitted in Montana between 1897 and 1945. Moose now inhabit about 18 percent of Montana's land area and number between 8,000 and 11,000.

• Although the Merriam's turkey is not native to Montana, transplants beginning in 1954 established a population that has grown to 30,000 birds.

Realizing that this single piece of legislation could lead to the salvation of

DONALD M. JONES

GARY KRAMER

DONALD M. JONES

MICHAEL S. QUINTON

DONALD M. JONES

DONALD M. JONES

*Since its passage in 1937, the Wildlife Restoration Act has aided in the recovery of dozens of wildlife species, including those pictured clockwise from left: white-tailed deer, Merriam's turkey, bighorn sheep, pronghorn, moose, and elk.*

America's wildlife resources demanded incredible foresight. And it is the citizens who looked with an eye toward the future we should thank for the wildlife riches we enjoy today. These were the same citizens who have paid for wildlife conservation all along—the sportsmen and women, primarily the hunters, of Montana and the rest of the nation.

Back in 1937, these conservationists did the almost unthinkable: they asked to be taxed. The Wildlife Restoration Act placed a 10 percent excise tax on all purchases of sporting arms (shotguns and rifles) and associated ammunition. It also apportioned the revenues back to the states on 3:1 federal/state matching basis, and assigned these revenues solely for use in managing and restoring wildlife and its habitat. Of *critical* importance, the law dictates that for a state to utilize its Wildlife Restoration Act funds, all hunting license revenues derived by the state must be used solely for its wildlife management and hunter education programs. Since the act's initial passage, it has been amended to include a tax on archery equipment, handguns, and handgun ammunition.

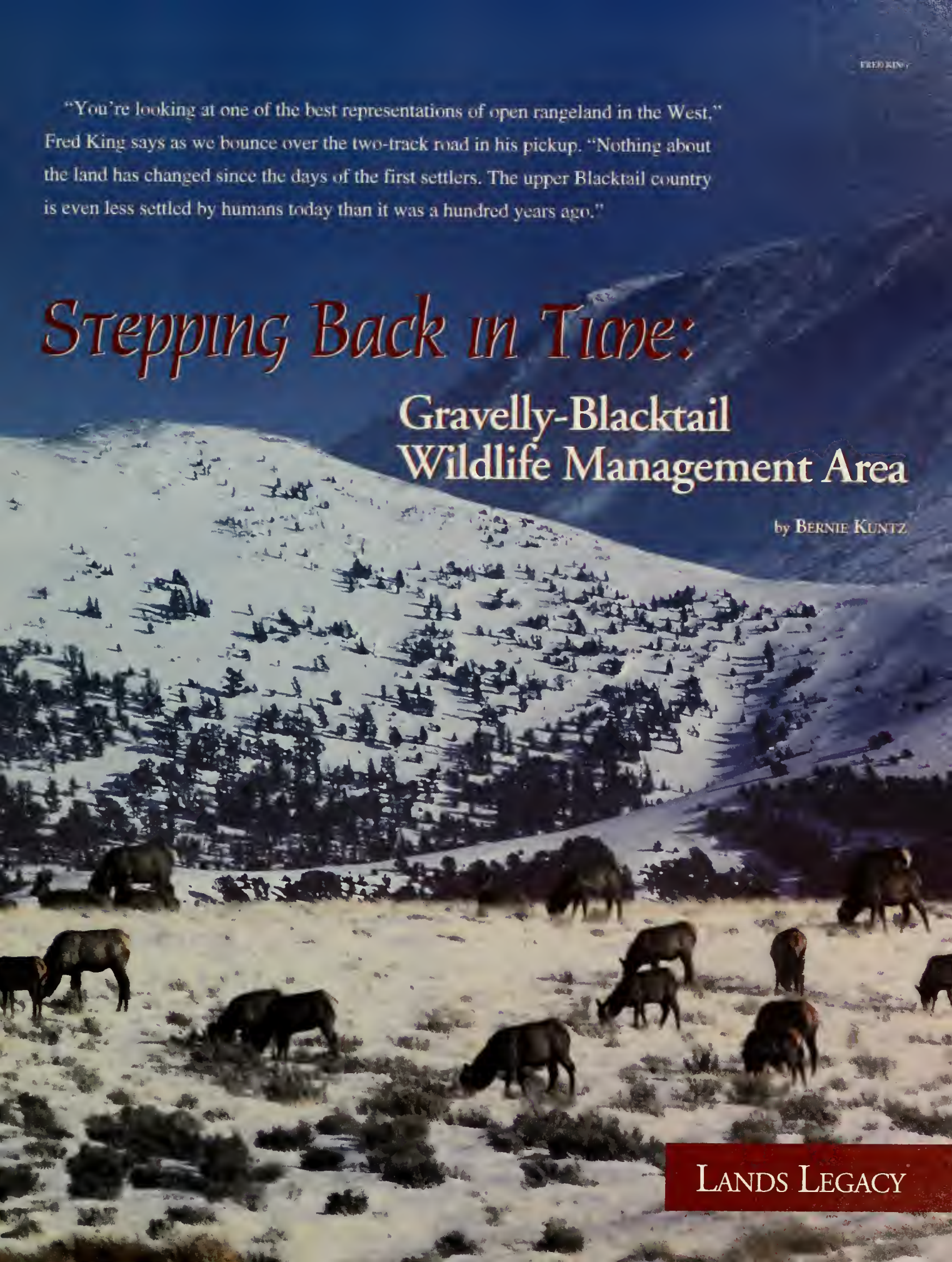
The unqualified success of Montana's Hunter Education Program bears further witness to the numerous ways Montana's sportmen and women have benefited from the Wildlife Restoration Act. Since 1957, when Montana's Hunter Education Program was first instituted, more than 260,000 Montana youngsters have been trained in safe firearms handling and other aspects of safe and ethical hunting. Thanks to the contributions of thousands of volunteer instructors and financial support provided by the Wildlife Restoration Act, Montana's program is recognized as one of the nation's best.

The program's track record at reducing the number of hunting-related accidents is perhaps the most telling reflection of its excellence. Prior to the late 1950s, when Montana became one of the first states to require hunter safety courses for youngsters, as many as 75 nonfatal accidents and 10 fatalities occurred each year. Now, with over a quarter of a million hunters annually enjoying some of the most diverse hunting opportunities in North America, Montana averages only 10 hunting-related accidents and one fatality each year.

As we celebrate the 60th anniversary of the Wildlife Restoration Act, let's not forget those who saw the legislation through to enactment, the millions of dollars hunters and recreational shooters have paid to benefit wildlife, the invaluable habitat acquisitions the act has funded, and the remarkable ways in which wildlife populations have rebounded. The successes of the Wildlife Restoration Act should make us feel more optimistic about the future of wildlife and hunting, not only in Montana, but throughout the nation. ■

MIKE BARLOW

THE ENORMOUS SUCCESS OF THE FEDERAL AID IN WILDLIFE RESTORATION PROGRAM IS EVIDENT IN THE ALMOST $2.5 BILLION (INCLUDING STATE CONTRIBUTIONS) THAT HAS BEEN INVESTED IN WILDLIFE RESTORATION EFFORTS THROUGHOUT THE NATION SINCE THE LAW'S INCEPTION. IN 60 YEARS, MONTANA HAS RECEIVED ALMOST $60 MILLION FROM THE FUND; IN 1996 ALONE, $5 MILLION WAS APPORTIONED TO MONTANA.



FRED KING

"You're looking at one of the best representations of open rangeland in the West," Fred King says as we bounce over the two-track road in his pickup. "Nothing about the land has changed since the days of the first settlers. The upper Blacktail country is even less settled by humans today than it was a hundred years ago."

# Stepping Back in Time:

## Gravelly-Blacktail Wildlife Management Area

by Bernie Kuntz

Lands Legacy

DUSAN SMETANA

GARY KRAMER

DONALD M. JONES

King, a Montana Fish, Wildlife & Parks (FWP) wildlife area manager stationed in Bozeman, is particularly fond of the Blacktail. "It's like stepping back in time," he says.

The upper Gravelly-Blacktail Wildlife Management Area (WMA) in southwestern Montana, along with the adjoining Robb-Ledford WMA, does indeed epitomize the phrase "open country." Elk winter range stretches as far as one can see, to the very top of the Snowcrest Range—expansive, sloping benches of grass—important grass that elk depend on in winter in this unforgiving country.

Montana Fish, Wildlife & Parks purchased the Gravelly-Blacktail Wildlife WMA in 1972 for $720,000—11,300 acres of deeded land at less than $64 an acre. Also included in the Gravelly-Blacktail WMA are 6,481 acres of land FWP leases from the Department of Natural Resources and Conservation, bringing the total managed within the Gravelly-Blacktail WMA to 17,781 acres.

It would be difficult to overstate the importance of this WMA as it relates to the long-term welfare of elk in the Gravelly Mountains. Bob Brannon, FWP wildlife biologist for the area, points out that elk spending summer and fall in a number of distant locations winter on the Gravelly-Blacktail WMA. Elk come from as far as the western edge of Yellowstone National Park, the Centennial Mountains of Montana and Idaho, and the upper West Fork of the Madison River. Most, however, come from the nearby Snowcrest Range and upper Ruby River. Of 57,000 hunter-days of recreation supplied by the Gravelly-Snowcrest Mountain complex, says Brannon, some 14,000 come from the hunting district including the Gravelly-Blacktail WMA.

A road system provides good access to the WMA. Game

warden Mike Mehn notes that hunters are required to stay on established roads with all motorized vehicles, including snowmobiles.

Brannon has counted as many as 2,470 elk on the WMA, and FWP's elk research biologist Ken Hamlin, who has done much work on the unit, has consistently counted 1,800 to 2,000 elk wintering there since 1990. Hamlin points out that in the mid-1960s, only 200 to 300 elk wintered on the WMA, partly because the surrounding area had lower elk populations and partly because range conditions weren't as attractive to elk.

"Prior to 1975 most of the elk didn't spend the winter on what is now the Blacktail WMA," Hamlin says. "Most were in the Middle and West Fork of the Blacktail. That was apparently because of year-long livestock grazing on the East Fork of the Blacktail and its tributaries." But since 1975, the elk have wintered mostly on the WMA proper.

Brannon says FWP has not utilized livestock grazing as a management tool on the WMA because elk are currently using the unit heavily enough to keep plant species in vigorous condition. "The only exception is down in the creek bottom along the lower East Fork, where herbaceous vegetation would be more palatable and productive if it were grazed." Brannon would like to set up a cooperative agreement with a neighboring landowner where the landowner could graze the lower ground in exchange for resting some of his own ground.

"We considered burning some willow along the creek bottom to remove the decadent stems," says Brannon, "but decided the disadvantages would outweigh the benefits." He points out that Geyer's willow is the most palatable species and the one preferred by wildlife, and may be the most abundant along the East Fork. "Burning the willow would remove decadent stems and perhaps stimulate production, but there would be negative impacts, too," he says. "If we burned, the new sprouts of Geyer's willow would receive heavier use by moose and elk than the less preferred species such as Bebb's willow. That would allow these less preferred species to increase and become dominant. In the long run, we would diminish the value of the forage base for the wildlife species that depend on it." Brannon encourages other land-managing agencies to contemplate these effects when considering burning projects.

Fred King calls elk an "umbrella" species. "If elk thrive on the WMA," he says, other species also will do well." The Gravelly-Blacktail proves his point, since it provides habitat for pronghorn, Shiras moose, deer, sage grouse, blue grouse, and numerous nongame birds and mammals.

"The Gravelly-Blacktail WMA is one of southwestern Montana's most important nesting areas for ferruginous hawks," says Dennis Flath, FWP's nongame coordinator. "The ferruginous hawk goes along with the whole buffalo/prairie dog environment, and of course most of that is gone."

In 1873, ornithologist A.J. Allen wrote that the ferruginous hawk was the dominant buteo, or soaring hawk, in all of the northern Great Plains. Today, the ferruginous hawk is rare. Flath says it feeds on jackrabbits and burrowing mammals, including ground squirrels and pocket gophers. "There are at least 110 breeding pairs of ferruginous hawks in the

DONALD M. JONES

**Opposite Page:** *The Gravelly-Blacktail WMA provides winter range for about 2,000 elk (top), as well as habitat for sage grouse (middle), pronghorn (bottom), and numerous other wildlife species.* **Left:** *A permit season was established for moose about five years ago following many years of closed seasons.*

Beaverhead/Madison area, and a half dozen can be found on the Gravelly-Blacktail WMA," Flath says.

The pygmy rabbit is another rare species found on the WMA. This tiny rabbit's range in Montana is restricted to the extreme southwestern corner of the state. "The pygmy rabbit is not a cottontail," Flath says. "It's a different genus, it has no white on its tail, and as the name implies, it is very small." Pygmy rabbits are limited to areas that contain substantial sagebrush cover. "Because of their vulnerability to predation," he says, "they're found in areas with heavy cover and where soils are suitable for burrowing."

The area is also rich in culture from early Native American hunters. During our tour of the WMA, King and I stopped frequently to look at pishkuns where early hunters drove bison off low cliffs. At one stop he handed me a piece of fossilized rock with the distinct imprints of seashells and other ancient ocean dwellers.

"This whole place was once beneath a sea," King says. "Today it is a perfect example of open space and wonderful elk winter range. It was all bought with hunters' license dollars, and it will be preserved in perpetuity for elk and other wildlife. I like that thought." ■

FRED KING

# Gravelly-Blacktail Wildlife Management Area

**Location:** In southwestern Montana's Beaverhead County, 30 miles southeast of Dillon on Blacktail Deer Creek Road.

**Size:** 17,781 acres.

**Acquisition date:** 1972.

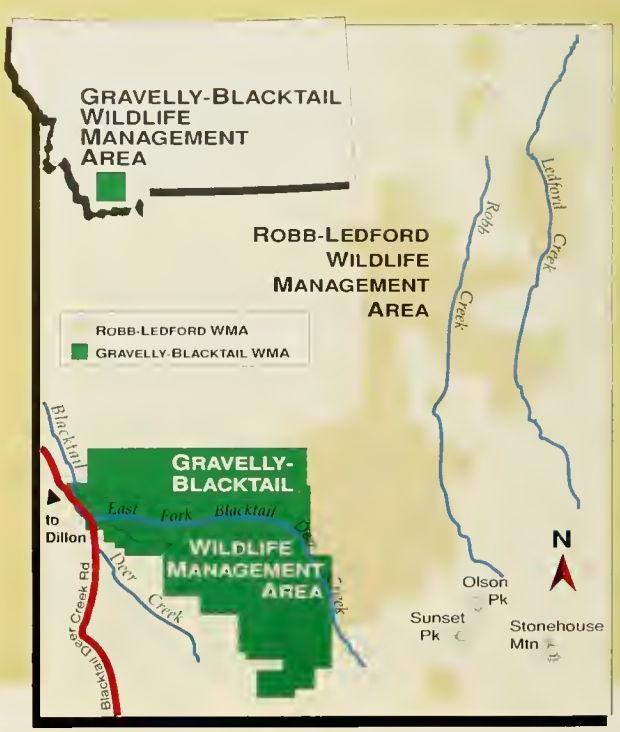
**Access:** From Atlantic Street in Dillon, take Blacktail Deer Creek Road southeast approximately 30 miles.

**Management goal:** To provide high-quality habitat for elk and a variety of other wildlife species, to keep elk numbers in balance with available forage, and to provide public recreational opportunities.

**Hunting and fishing opportunities:** Archery and rifle hunting are allowed on the unit (see regulations for details). Limited opportunities exist for sage grouse and blue grouse. Rainbow and brook trout are found in Blacktail Deer Creek.

**Wildlife viewing:** Elk, pronghorn, moose, deer, grouse, songbirds, and numerous small mammals can be found through much of the year. Ferruginous hawks and their nests are highly visible, but observers are cautioned not to approach the nests, particularly during the nesting season (late April through June). Ferruginous hawks will abandon their nests in response to human disturbance.

The Gravelly-Blacktail is closed to visitation from December 2 until May 15 each year to minimize disturbance to wintering elk.



# One That Counts

by Jerry McGahan

My stepfather didn't hunt, so I taught myself. It was an unwitting affair. As a 12-year-old, hunting didn't seem to me something one had to learn, any more than one had to learn to play hide-and-go-seek or kick-the-can. When one of my father's coffee-shop regulars brought an old .22 single-shot into the cafe and presented it to me, I presumed myself a hunter.

BILL MARCHEL

I walked out of town into a buffalo-grass, rabbit-brush prairie nearly every Saturday for two or three years and hunted the same white-tailed jackrabbit or, if not the same, then one of a team. I never got them, or it, but that hare taught me my first rules: (1) if I didn't take a shot when he was running, I wouldn't get any shot at all because once flushed he never stopped within range; (2) just after he disappeared over the first rise he always veered off from the general line of direction or azimuth he'd taken to the crest; (3) when I got to the place where

he'd disappeared he was always gone, regardless of what direction he'd deviated; and (4) in tracking snow, I had another one or two miles to go before I'd see him again. Since then, while hunting sage grouse, I've encountered a number of white-tailed jackrabbits that have refuted several of these axioms, which is why I say if I wasn't always hunting that same jackrabbit 30 years ago, it must've been a friend or kin.

DAVE BOOKS

He was a wonderful animal, whoever or how many he was. He came out charging, half upright as a jetboat comes off the water, one jolt of churning watchfulness. When his eye had me and the rise ahead measured, he dropped into a lope, an easy bounding jackrabbit gallop. That's when I shot, whereupon accessory engines took fire. The landing gear went up and he flew—white comet, or in the summer, a sage-grey blur. At the crest, richly safe, he resumed his regal loping, skyline farewell.

Every year the jackrabbit took me out another mile or so farther than I'd been before, until one day I happened onto a stock pond. When I peeped over the bank that first time I found two shadowy-colored ducks on the water. So ended the jackrabbit hunt. The hare went on but I stayed behind for the ducks. Ducks were not only legitimate; here was real currency. No jackrabbit ever graced the cover of a hunting magazine. No one need buy a Jackrabbit Stamp.

I set pins in a bowling alley all winter, garnered a dime a line until I could snatch up six pins in one lunge, whereupon, I doubled my earnings by setting two lanes at a time. That spring I bought a Western Field 16-gauge shotgun from Montgomery Ward for $68. On the first day of duck season the following fall I sneaked up onto the bank of that stock pond, pushed my new gun through the grass, and sluiced my first duck. She must have been a hen goldeneye or scaup. I waited an hour and a half for her to drift to shore.

Monday was bragging day. I went to the taxidermy shop after school. Hank and Jack were taxidermist brothers. Jack did the birds and fish and sewed the skins onto the papier-mache forms. In the afternoon of most days he was forming the lips and eyes of trophy heads; he shaped the clay beneath the skin with tools he'd made from flattened telephone wire. Jack taught me the Pythagorean Theorem when I was in fourth grade, and when I was a senior he wrote a recommendation letter for a leadership scholarship I didn't win. It wasn't because of his letter that I missed that one. I got to see it one day in the school file.

Hank, I knew better. He did the skinning and fleshing when the hides and heads came in. Bear hides, he draped over a hair-smoothened tongue of wood and rolled off long, wide, slippery pieces of fat with a drawknife. In the basement, he made the papier-mache forms for the heads by tearing strips of cardboard and then smearing them with glue and layering them cross-hatched across molds of plaster of Paris. He trimmed the bear and cat rugs, the flannel undersides and scalloped edgings. Once a month he did the bookkeeping at his rolltop desk on a gallery

above where Jack worked clay into the eyes and mouths of roaring bears and bugling elk.

Hank never took me hunting, but he did teach me how to find mushrooms and catch whitefish and how to make root beer and build sparrowhawk nests. He made the nest from hollowed logs and I put them up for him along the river between Livingston and Spring Creek. In May we collected morels and oyster mushrooms (which he called stumps) under heron colonies along the Yellowstone River. The stumps grew on cottonwood snags, and morels were in the leaf litter. In the winter he loaned me a bamboo cane pole, and we fished his one favorite hole in every kind of weather. First, we screened devil scratchers for bait. He made sinkers by hammering .44 slugs flat and nailing a hole through them. The spatulate sinker drifted over the rock at just the right speed for attracting stonerollers—these were the whitefish two pounds or more that had knobby, swollen noses from rooting rocks. Hank smoked them in his wife's oven and gave me a share of them in an oil-stained grocery sack.

But he never took me hunting. Nor did he show me how to make arrowheads even though he'd tutored John W., another kid who came in the shop all the time. They chipped jasper and obsidian with a tool made out of a deer antler. John W. always made this arrowhead crafting out to be a most secret skill, enough so that I never asked Hank how to do it. Another secret I coveted in silence was Hank's formula for tanning rattlesnake hides. I didn't like asking about somebody else's secrets.

The day I went in to proclaim my new status, Jack was pressing at the tuck of skin that dives in toward the deer's skull under the eye. Hank was stitching a bear rug. "I shot a duck yesterday," I said.

"What kind was it?" Jack asked me. I didn't know. "You do know the difference between puddle ducks and diving ducks?"

"It was just a dark-colored duck."

"How'd it take off? Puddle ducks leap off and divers run across the surface," Jack said.

"I don't know. I shot it before it flew."

Jack kept pushing at the dimple of skin but Hank quit stitching. "You don't shoot ducks on the water," he said. He looked like Captain Bligh.

"I used a shotgun," I explained. "It was my first duck, my first bird with my new shotgun."

"Who doesn't shoot birds with a shotgun? That doesn't mean you shoot them off the water. What kind of sport is that ?"

I didn't answer. Hank was still watching me. "What you doing shooting a bird off the water?" He looked at me as if I'd just done it, just shot the duck from the stool in their shop. "If you do that again, don't come in here," he said.

I couldn't think of anything to say. Jack's silence heaped on powerful corroboration. They were both working again. After a while I said I thought I'd better be going. They said nothing. I didn't go duck hunting again that year.

The following year I bought my own car, a 1946 Ford that cost less than my shotgun. I went hunting on Spring Creek, a favorite place for Livingston duck hunters. Visiting the place seemed no great presumption. I'd just walk around carrying my shotgun. Like anyone.

Spring Creek is a slough of clear water that never freezes. It loops out oxbows in a willow bottom, a place checkered with green slabs of watercress, complicated with rotten cottonwood logs, beaver channels and ponds, swatches of cattail. In winter, a template of fog caps most of the open water.

I saw a flock of about 50 ducks drop in between the slough and the river. Boomerang-shaped, they swept into a big stand of cottonwood and never came out. It was a mile and a half away. The approach was obvious. I hunched down, dodged from bush to bush. Once into the stand I crawled. By and by, I could see the water. I belly-crawled. I couldn't hear anything for the thunder of blood pounding through my ears. When I came onto a hedge of buffaloberry I saw the ducks for the first time. Greenheads on the other side. Here was a kind of green I'd never seen before. Droplets of water splattered the light. Black butts up, perfectly curled feathers. Black, now green. They didn't know I was there. It was inconceivable they weren't hearing the crashing in my ears.

I was afraid to get up, to be the one who began it. *Go.*

No.

But I couldn't watch them much longer either because of the detonation going off inside me. I watched myself get up. The slough blew open. Marble-sized spheres of water flung out and black eyes glittered everywhere in the climbing racket of greenheads. I saw one fall. Green head over black butt down, down, down. My greenhead out of the sky. I dropped my gun and rushed into the slough. Water wicked up into my kapok overcoat, loaded it with a sucking weight. The air was rushing from my mouth, and I turned back,

nearly going under. Churning and pulling, I stroked, pushed, lunged my way back out. The lovely greenhead swam upstream. All the others were motes, pepper grains in the sky. I stripped off my coat, boots, pants and shirts, and jumped in again. When I swam toward the duck, he dove. I saw him once again—a soft grey form pumping downstream just beneath my feet. I swam in circles, first down, then up the slough but I never saw him again. It started to snow.

I got out and ran back along the shore to fetch my belongings. The once wet clothing had frozen into one lump. Standing there, freshly bewildered, naked but for a pair of shorts, I heard the sound of wings. Just overhead, through the blowing snow, a duck came in. She went downstream and then banked back, set her wings and dropped straight for the bend where I stood. I snatched the gun and backed into the buffaloberry. She swept by going upwind, climbed momentarily. I shot and she fell, floated belly up. I went back in the water and retrieved her. By then, the slough seemed warm and I didn't want to get out; the hesitation was momentary. *Lots to do now.* I rushed out, grabbed my gun, pried loose the mound of frozen clothing, tucked them under my arm, and, with one hand around the neck of my first or third, or first bona fide duck, I ran, which wasn't as bad as it might seem. My feet were numb and the sprint kept my blood moving. At the car I couldn't get the key in the starter. The shivering had turned to spastic fits. It took both hands to average out the jerking. I drove straightaway to the taxidermy shop and ran in (by way of the alley door), duck held proudly aloft. I wore only my shorts and long greasy strips of mud.

Three of them stared. Red, who worked next door at Bailey's Fly Shop, sat on the stool. His mouth worked a little.

"A duck." I thrust it out. "Shotgun. In the air. Not on the water. Did it right this time. But I lost one." I told them what happened.

Red guffawed. Jack laughed then, too, but not Hank. He looked angry. "You shoot cripples on the water."

"You told me if I ever shot a duck on the water to not come ba . . . ba . . . back in here again." A new series of spasms attacked.

"Get out of here," Hank said. "Go home and get in the tub before you die."

"You can sh . . . sh . . . shoot cripples on the water?"

"Probably as good as your Lab," Jack told Red. "And better housebroken too."

"Get outa here," Hank ordered.

"What ki . . . ki . . . ki . . . kind of duck is this?"

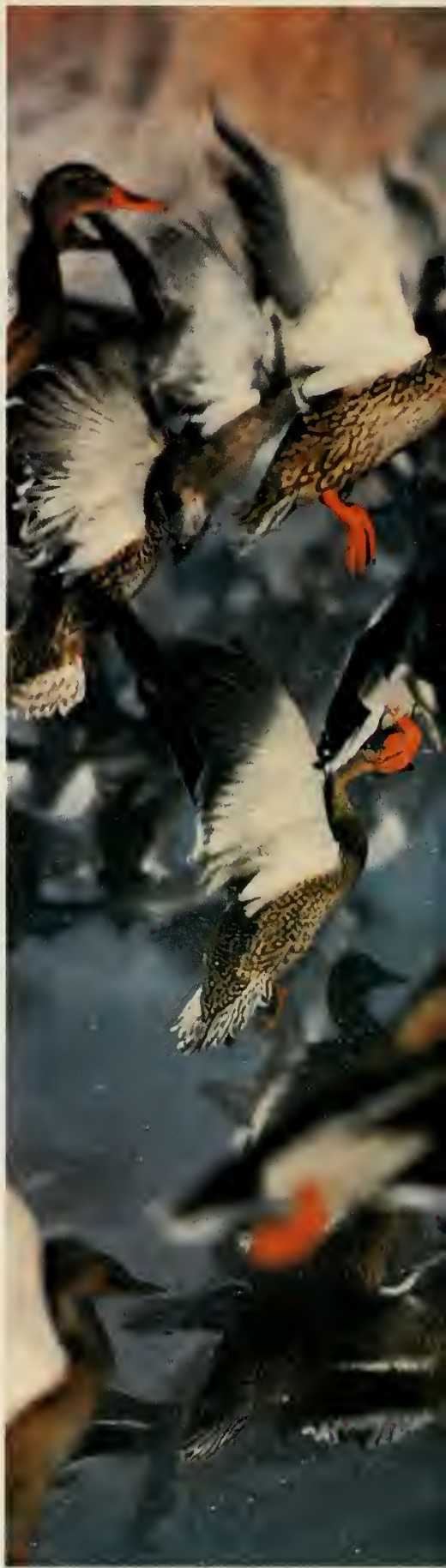
"It's a hen shoveler," Jack said.

For some reason, this renewed Red's guffawing.

"They count, don't they? Shovelers count?"

"Hell yes, they count," Hank shouted. "Will you get outa here?"

I left. When I got home it was dark. I got in the tub and reviewed. Nothing would ever count as much as all those green heads, innocent of me, dollops of thrown up water, and the black curly butt feathers. Black, then green, then black again. ■



DENVER BRYAN

# FISHES OF SPECIAL CONCERN: AN UPDATE

*by Chris Hunter*
*Special Projects Bureau Chief*
*Fisheries Division*

It has been more than three years since we last updated the "fishes of special concern" list—a list begun in 1979 by George Holton, then assistant administrator of FWP's Fisheries Division. He defined a fish of special concern as "a native Montana fish with limited habitats and/or limited numbers in the state." The list, unlike that created by the federal Endangered Species Act (ESA), has no force of law. It is simply a watch list to alert agencies and the public as to the status of these native fishes. It includes fishes that conceivably could become threatened or endangered if their situation worsens.

The list is now developed jointly by FWP and the Montana Chapter of the American Fisheries Society (MCAFS). MCAFS is a professional society composed of fisheries biologists working in Montana. Recommendations for a fish to be added, removed, or changed in status are voted on at the annual meeting of the MCAFS. Changes approved by MCAFS are then submitted to the FWP director for updating of the list.

The accompanying chart lists Montana fishes of special concern by class (left side). This chart reflects the following changes in the list:

(1) The blue sucker has been upgraded from Class C to Class B. Blue sucker populations appear to have been stable for the past 10 to 15 years in Montana, with reasonable abundance and healthy age distributions within populations. However, there have been major population losses in other states in the Missouri River drainage, where construction of large dams has resulted in extensive habitat alteration. Elimination of the blue sucker from Montana would be at least a moderate loss to the nationwide gene pool of this species. This is the criterion for a Class B listing (see chart) and hence the change in classification of this species.

(2) The shorthead sculpin has been removed for reasons that are hinted at by its scientific name, *Cottus confusus*. Shorthead sculpins have been reported from a few Montana streams west of the Continental Divide. It has been classified a Class C fish of special concern in Montana because of its limited distribution in the state, although it is widespread and abundant in North America as a whole.

The identification of shorthead sculpins has become increasingly controversial over the past several years. To the untrained eye, and the highly trained eye as well, it is difficult to distinguish the shorthead sculpin from the mottled sculpin (*Cottus bairdi*).

Physical characteristics are one tool used by taxonomists to distinguish one species from another. The physical characteristics of mottled sculpins taken from the Milk River are intermediate between those of shorthead sculpins taken from the Flathead and those of mottled and shorthead sculpins taken from the Columbia. In short, the taxonomy is very confusing. Work is currently underway to determine if these two fishes can be distinguished using chemical techniques. But as George Holton and Howard Johnson note in the 1996 edition of *A Field Guide to Montana Fishes*, scientists have yet to determine if they are varieties of the same species. Given this uncertainty over the taxonomy of *Cottus confusus*, the MCAFS recommended, and FWP agreed, that the shorthead sculpin be removed from the fishes of special concern list.

There are also changes in the federal ESA status of several Montana fish (right side of chart). The white sturgeon was listed as endangered under the ESA shortly after the last update of this list was published in 1994. A state-federal team has been working to develop a recovery plan for the white sturgeon. A key element of the recovery plan is to attempt to re-create the high spring flows in the Kootenai River that existed before Libby Dam was constructed. It is believed these high flows were important for spawning and rearing.

In 1996 the U.S. Fish and Wildlife Service (FWS) made an administrative change in the classification of species covered under the Endangered Species Act. Those species formerly classified C-1 (species for which the FWS has sufficient data to propose listing) are now classified as candidate species. These include the Arctic grayling, bull trout, sturgeon chub, and sicklefin chub. Candidate species receive no protection under the ESA. Species that were formerly categorized as C-2 (species for which conclusive data to support listing are not available) are now only considered species of concern and have no official distinction under the ESA. These include the paddlefish, interior redband trout, and blue sucker. The FWS will rely on "species of concern" lists such as this one to identify these species.

Three of the species require additional discussion. The interior redband trout was petitioned for listing in 1994, but after reviewing the data, FWS decided that listing was not warranted. FWS has prepared a proposal to list the bull trout as threatened. The proposed rule is due to become final in June of 1998. FWS has until then to collect additional information and public comment before making a decision on whether to list the species. FWS has also received a petition to list the westslope cutthroat trout as threatened, but no action has been taken on the petition.

# Montana Fishes of Special Concern

| State Listing | Federal Category Under ESA |
|---|---|
| **Class A** - Limited numbers and/or limited habitats both in Montana and elsewhere in North America; elimination from Montana would be a significant loss to the gene pool of the species or subspecies. | |
| White sturgeon (*Acipenser transmontanus*) | Endangered |
| Pallid sturgeon (*Scaphirynchus albus*) | Endangered |
| Paddlefish (*Polyodon spathula*) | — |
| Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*) | — |
| Westslope cutthroat trout (*Oncorhynchus clarki lewisi*) | — |
| Arctic grayling (fluvial) (*Thymallus arcticus*) | Candidate |
| Bull trout (*Salvelinus confluentus*) | Candidate |
| **Class B** - Intermediate between classes A and C. Limited numbers and/or habitats in Montana; fairly widespread and fair numbers in North America as a whole. Elimination from Montana would be at least a moderate loss to the gene pool of the species or subspecies. | |
| Interior redband trout (native rainbow) (*Oncorhynchus mykiss gairdneri*) | — |
| Sturgeon chub (*Macrhybopsis gelida*) | Candidate |
| Sicklefin chub (*Macrhybopsis meeki*) | Candidate |
| Blue sucker (*Cycleptus elongatus*) | — |
| **Class C** - Limited numbers and/or limited habitats in Montana; widespread and numerous in North America as a whole. Elimination from Montana would be only a minor loss to the gene pool of the species or subspecies. | |
| Shortnose gar (*Lepisosteus platostomus*) | — |
| Pearl dace (*Margariscus margarita*) | — |
| Northern redbelly dace (*Phoxinus eos*) x finescale dace (*P. neogaeus*) | — |
| Trout-perch (*Percopsis omiscomaycus*) | — |
| Spoonhead sculpin (*Cottus ricei*) | — |

# Vannoy Family Recognized for Land Stewardship

Blackfoot Valley ranchers Frank and Shirley Vannoy were recognized for exceptional land stewardship and cooperation during a public tour of the Blackfoot-Clearwater Wildlife Management Area (WMA) hosted by Montana Fish, Wildlife & Parks (FWP) in September. About 95 neighbors and interested citizens watched as the Vannoys were awarded a plaque on behalf of FWP and the public. The Vannoys, whose ranch is adjacent to the WMA, began their stint as lessees and caretakers on the old Dreyer Ranch soon after this property was purchased by FWP and added to the WMA in 1989.

When FWP purchased the Dreyer property, the ranch buildings were included in the transaction. Following public input on a draft management plan, FWP decided to use the buildings as assets in managing the land and wildlife resources. After discussions with neighboring landowners, FWP determined that its objectives for the Dreyer Ranch unit best fit with the Vannoy ranch operation. As part of the lease agreement, FWP required the Vannoys to reside at the Dreyer Ranch headquarters and maintain the buildings, corrals, lawns, and roads as if they were their own. This has reduced the public cost of owning the buildings to almost zero, while preserving their usefulness and value.

SEELEY SWAN PATHFINDER

*Shirley and Frank Vannoy were recently honored for contributions to wildlife management.*

While living on the property, the Vannoy family has been dedicated to their work for wildlife on the WMA. In return for the annual hay crop they harvest from the Dreyer meadows, the Vannoys irrigate the meadows, maintain some 30 miles of fenceline on the WMA, perform 80 hours of chores assigned by FWP each year, and allocate 40 hours annually for weed spraying.

The Vannoys are not state employees. Rather, they are private partners in managing this important elk migration corridor and winter range in west-central Montana by virtue of an innovative land-lease arrangement. Theirs is but one of numerous customized agreements between private landowners and FWP across Montana that benefit wildlife, local ranching communities, and the public.

FWP's award to Frank and Shirley Vannoy is in gratitude for dedication and effort above and beyond the legal terms of any formal lease agreement. Thanks to the Vannoy family, the management of the Dreyer property is a fine example of a public and private partnership that truly benefits everyone.—*Mike Thompson, Wildlife Biologist, Region 2*

# Grayling and Bull Trout Show Resistance To Whirling Disease

According to recent studies, Arctic grayling and bull trout, native Montana "fish species of special concern" (see page 26), appear to be resistant to whirling disease. In testing the vulnerability of Arctic grayling, bull trout, Yellowstone cutthroat trout, westslope cutthroat trout, and Deschutes rainbow trout, researchers found that Arctic grayling demonstrated a natural resistance to the parasite, while bull trout were able to ward off disease after initial infection.

The tests were conducted under the direction of Ronald P. Hedrick, a professor of veterinary medicine and epidemiology at the University of California at Davis. The research was funded by FWP and the U.S. Fish and Wildlife Service.

The Deschutes rainbow trout was tested because it is resistant to a parasite similar to the one that causes whirling disease. It was hoped the Deschutes rainbow, an Oregon native, would be armored against fatal whirling disease infection. Those hopes were dashed, however, upon Hedrick's discovery that the Oregon rainbow trout is as susceptible to whirling disease as other rainbow trout.

Whirling disease is a potentially fatal ailment of trout and salmon caused by a microscopic parasite that attacks the cartilage of young fish. Of all the fish in the trout family, rainbow trout appear to be least capable of defending themselves against the disease.

Hedrick's research team also established that Yellowstone and westslope cutthroat trout are susceptible to infection, yet appear to be slightly less susceptible than rainbow trout.

FWP's fisheries chief Larry Peterman said the best hope for cutthroat trout and rainbow trout now appears to be managing around the disease. "The research tends to confirm what we're seeing in Montana," he said. "There is a broad spectrum of susceptibility to whirling disease that includes a number of factors, including how, when, and where the fish and parasite interact. It includes things like water temperature, time of year, and the age of fish. All of these factors relate in some way to that spectrum of resistance to whirling disease."

# MONTANA'S MID-WINTER WATERFOWL SURVEY

*by Jim Hansen*
*Central Flyway Waterfowl Biologist*
*Wildlife Division, Region 5*

"Just count the feet and divide by two!" Such was the advice given to me by a staff member at a national wildlife refuge in Missouri 32 years ago. I was a rookie assistant refuge manager and was about to tag along with my boss for the first time to learn something about aerial surveys of ducks and geese. I didn't fall for the "counting feet" joke, but it did help this country boy who had never even been in an airplane to relax a bit! I don't recall how much I learned on that first flight, but over the years I've worked out my own techniques for estimating numbers of ducks and geese from the air.

As an FWP waterfowl biologist, one of my assignments is the Mid-winter Waterfowl Survey, which is conducted across the entire United States each year in early January. The U.S. Fish and Wildlife Service coordinates the survey, advising cooperators of the target date and summarizing the results. By having all assigned areas surveyed on approximately the same date, the chances of the same birds being counted twice, or not at all, are minimized. Ducks and geese can still be migrating that time of the year as weather systems move through, and it wouldn't work very well to count birds in Montana one week and have someone else count the same birds in Colorado two weeks later.

The "Mid-winter" is especially important for geese, because for some populations it is the official benchmark by which the status of the population is monitored and upon which hunting regulations are based. It is the primary survey for brant, tundra swans, black ducks, buffleheads, and goldeneyes, and it provides distribution information for other species of ducks, most of which are also monitored by a May breeding duck survey.

In Montana, the Mid-winter Survey is carried out by FWP and U.S. Fish and Wildlife Service biologists who are assigned to monitor specific waterfowl concentration areas around the state. My assignment is the Yellowstone River from Billings to Miles City, plus the Bighorn River from Yellowtail Dam to the mouth of the Bighorn. Another FWP biologist, either Bernie Hildebrand from Miles City or John Ensign from Glendive, surveys the Yellowstone River from Miles City to the North Dakota border. I also count bald eagles on my route as part of a coordinated eagle survey.

We generally plan on doing the survey on the first day of the survey period, allowing time for possible weather delays. Delays do occur; one year it took three days to complete a seven-hour survey because we kept running into a curtain of snow showers.

We use a rented Cessna 182, which provides a little more speed for the cross-country parts of the flight. It's also safer than some other options under some weather conditions and has room for me to look out either side of the plane as I sit in the back. The pilot helps by acting as a spotter to see distant geese in the fields, but his primary job is to safely fly the plane.

Last January, my survey day began when I met pilot Wayne Baenziger at the Billings airport around 8:00 a.m. After getting our flight plan cleared, we began flying down the Yellowstone River, staying about 900 feet above the ground. Some observers fly lower when they survey waterfowl, but we find that a little more altitude allows us to see birds on the bends of the rivers and also geese feeding in fields up on the benches. I predicted good conditions for the survey. Three inches of snow

RODNEY SCHLECHT

*Canada goose populations in eastern Montana have reached record or near-record levels in recent years.*

had fallen the day before, and it is much easier to see gray geese in a white field. Also, it was cold! As any goose hunter knows, Canada geese stay in bed longer on cold mornings, sometimes not flying out to feed until 11:00 a.m. or so. Geese on gravel bars in the river are easier to find than geese in wheat stubble three miles off the river.

Wayne spotted our first customers and put me in position to count a small group of Canada geese on the ice near shore. With a small flock like this I can easily count groups of 10, and I quickly came up with 50 geese. This was a good review for me, because I count larger flocks by estimating groups of 50. I find it helps to refresh my memory on what a group of 50 geese looks like early in the day.

As we proceeded down the Yellowstone we found a scattering of mallards and common goldeneyes in the river, along with more geese, plus occasional bald eagles perched in large cottonwoods. We were almost to Forsyth before we saw geese in the air; as we predicted, the cold morning had confined the geese along the river.

A 30-minute stop at Miles City allowed us to refuel, eat lunch, and stretch our legs before taking off and flying cross-country to Yellowtail Dam on the Bighorn River. As we crossed this wild, rugged country, we kept an eye out for a private plane presumed to be down in this general area. While it is certainly tragic and frustrating for searchers not to be able to find a downed plane for three days, I thought to myself that there's something to be said for living in a state wild enough for this to happen.

When we hit the Bighorn River, we followed it a short distance upstream to Yellowtail Dam. We got bounced around a bit, but the predicted high winds that can turn the canyon into a veritable wind tunnel had not yet arrived. After counting ducks and geese below the dam, we headed down the Bighorn, picking up a number of goldeneyes and mallards and making several side trips over the fields to find feeding geese. Wayne swerved the plane once to avoid a small group of geese that appeared from nowhere—not a really close call, but it gave us something to think about. We completed the survey at the mouth of the Bighorn and headed back to the Billings airport, pleased that we were able to finish the survey on the first day.

Before sending in the results I separated the Canada goose count into estimated numbers of "Hi-Line" population and "short grass prairie" population based mainly on ground checks done before the survey. Hi-Line geese are the big, 9- to 13-pound geese that nest in Montana, Wyoming, and southern Canada, while short grass prairie geese are the 5- to 7-pounders that nest farther north in the Northwest Territories.

In a typical year we count 20,000 to 40,000 Canada geese along the Yellowstone and Bighorn rivers during the Mid-winter Survey, but last January we found only around 8,000. The main reason for the lower number was the foot of snow on the ground in most areas. There was still open water, but when the snow gets that deep, geese have trouble getting to waste grain in the fields, so they leave. But, no matter; if they weren't counted in Montana, they were counted somewhere else.

W. STEVE SHERMAN

*In typical years, biologists count 20,000 to 40,000 Canadas along the Yellowstone and Bighorn rivers in early January. Last year's count was lower because snow covering the fields pushed some geese farther south.*

So, how are Canada goose populations faring? Those in eastern Montana are doing very well, reaching record or near-record levels in recent years. Because of the population trends documented by the Mid-winter Survey, we have been able to liberalize goose hunting regulations to the point that our season is now the longest permitted under the Migratory Bird Treaty. Even with this liberal season, our goose populations have continued to increase.

If you should see a small plane some early January day flying seemingly aimlessly over fields along the Yellowstone River, it could be the FWP guys counting geese and other birds. And, no, I don't tell goose hunters exactly which fields the geese are feeding in! If I did, it wouldn't be "hunting," now would it?

# 1997 Montana Outdoors Index

The major items published in Montana Outdoors in 1997 are indexed below. Extra copies of '97 issues are available at $3 each (includes postage). The following back issues are available at the same price:

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E. NEALE STREEKS

**FISH/FISHING/WATER**

**Bull Trout Restoration: The Right Thing to Do**—Biologists and concerned citizens are working together to preserve Montana's beleaguered bull trout (John Fraley, March/April).

**Perspectives—"Soul Music"**—Times change and children grow up and move on, but the simplistic beauty of flyfishing connects the generations (Mike Gurnett, March/April).

**Catchall—New FWP Fishing Program Benefits Families**—A statewide angler education program will teach kids new skills (Dave Hagengruber, March/April).

**From the Field—A New Fish for Tiber**—Introduction of cisco to Tiber Reservoir will produce bigger walleyes (Bruce Auchly, March/April).

**Mayfly Magic**—To dedicated flyfishers, mayflies are the foundation of the sport (E. Neale Streeks, May/June).

**1996 Fish Records—The Year of the Worm**—Of nine record fish netted in 1996, seven were taken on worms or nightcrawlers (Dave Books, May/June).

**Our Point of View**—A proposal to restore cutthroat trout to 10 Madison River tributaries may offset losses of rainbow trout to whirling disease (Patrick J. Graham, May/June).

**The War on Whirling Disease**—Scientists are attacking this virulent trout malady on several fronts (Tom Palmer, July/August).

**Restoring Wild Fish Habitat: The Future Fisheries Improvement Program**—Earmarked dollars from fishing license sales are rejuvenating habitat and improving fishing across Montana (Bruce Rehwinkel, July/August).

**Tailwater Trout**—Dams may have their drawbacks, but the cold, oxygen-rich water below them provides good trout habitat (Dave Carty, July/August).

**Catchall**—Montana's "fishes of special concern" list receives an update (Chris Hunter, November/December).

**GAME/HUNTING**

**Get Your Elk?**—The quest for this prized big game animal can extend from late summer to early winter (John Haviland, September/October).

**Preserving the Tradition**—Montana's Hunter Education Program celebrates its 40th anniversary (John Fraley and Tim Pool, September/October).

**The Color of Autumn: A Bird Hunting Odyssey**—Fall is a special time for bird hunters and their dogs (September/October).

DENVER BRYAN

**Block Management: What Landowners and Hunters Say**—In a recent survey, landowners and hunters alike gave FWP's innovative land access program good grades (Alan Charles, September/October).

**Catchall—Got your State Land Recreational Use License?**—People planning to hunt on state lands need this special permit (September/October).

**Our Point of View**—The future of hunting rests in the hands and actions of hunters (Patrick J. Graham, September/October).

**Meeting the Challenge**—The entire community of Montana hunters can help provide opportunities for hunters with disabilities (Alan Charles, November/December).

**Perspectives—One that Counts**—A Livingston native reminisces on how he learned to hunt ducks—the hard way (Jerry McGahan, November/December).

## GENERAL

**Special Photo Issue** (January/February).

**Our Point of View**—A common desire and need to maintain our "Montana Way of Life" can help us resolve conflicts and maintain our natural treasures (Patrick J. Graham, March April).

**Thornbrugh Wins 1997 Waterfowl Stamp Contest**—Joe Thornbrugh's painting of a golden retriever holding a mallard graces the 1997 state waterfowl stamp (William Phippen, March/April).

**Taking a Cotton to Cottonwoods**—These hardy streamside trees provide sanctuary for migrating birds and shade for anglers, floaters, and other recreationists (Bruce Auchly, May/June).

**Catchall—FWP Warden Wins Pogue-Elms Award**—Great Falls game warden Steve Vinnedge wins a prestigious law enforcement award (May/June).

**1996 Annual Report**—A summary of FWP goals and priorities, project highlights and a budget breakdown (July/August).

**Catchall—Steve McMorran Receives Wildlife Ambassador Award**—FWP's 1997 "Vince Yannone Ambassador for Wildlife Award goes to the caretaker of FWP's Wild Animal Shelter in Helena (July/August).

**Our Point of View**—Montanans who serve on an array of citizens' groups are helping move FWP forward.

**From the Field—TIP-MONT is Working**—Growing awareness of FWP's fish and game violation hotline is bringing poachers to justice (William Phippen, September/October).

## PARKS/DEPARTMENT LANDS

**Lands Legacy—Linking Prehistory to Posterity**—The conservation ethic of two Helena-area families has forged a new link in the chain of wildlife habitat along the Rocky Mountain Front (Gayle Joslin, March/April).

**Lands Legacy—Sacred Ground**—A new interpretive center at Ulm Pishkun State Park is scheduled for completion in 1999 (Debra Jo Williams, May/June).

**Protecting Our Heritage**—Vandalism in Montana's parks is on the increase, threatening priceless cultural resources (Carillon Steorts, May/June).

**Lands Legacy—Lake Elmo: The People's Park**—This state park within the Billings city limits offers swimming, boating, and fishing, as well as a wildlife sanctuary (Nancy Hoffer and Sue Dalbey, July/August).

**State Parks Preserve History**—Winners of the State Parks Poster Contest for fifth-grade students are announced (July/August).

**From the Field—Bannack Days: Celebrating Life on the Montana Frontier**—Food, gold panning, games, and historic tours are all part of Bannack Days each July (Cindy Staszak, July/August).

**Lands Legacy—Stepping Back in Time**—The Gravelly-Blacktail Wildlife Management Area provides a winter home for more than 2,000 elk (Bernie Kuntz, November/December).

## WILDLIFE

**Animal Talk**—From wolves to honeybees, animals communicate with one another in subtle and ingenious ways (Sam Curtis, March/April).

**Watchable Wildlife—Tracking Down an Avian Trickster**—The brown-headed cowbird escapes its parental obligations by laying eggs in other birds' nests (Christine Paige, March/April).

**Watchable Wildlife—A Gathering of Grebes**—Montana's six species of grebes are well adapted to their watery world (Dennis Flath, May/June).

**Perspectives—Wanderers on the Wind**—Thousands of shorebirds pass through Montana each spring and fall (Dave Books, May/June).

BILL MARCHEL

**Watchable Wildlife—A Halcyon Dream**—The kingfisher entertains anglers and connects budding naturalists to a hidden world (Jerry Kustich, July/August).

**White-tailed Homesteaders**—The adaptable white-tailed deer is still pioneering in some parts of the state (Same Curtis, September/October).

**Celebrating 60 Years of Wildlife Recovery**—The Wildlife Restoration Act has made great strides since its passage in 1937 (William Phippen, November/December).

**Watchable Wildlife—Winter Visitors**—The hardy birds that come to Montana each winter from the Far North have an all-absorbing interest: finding enough food (Dave Carty, November/December).

**From the Field—The Mid-Winter Waterfowl Survey**—An aerial census each January documents numbers of ducks and geese (Jim Hansen, November/December).

**Our Point of View**—Working together through the Wildlife Restoration Act, state wildlife agencies and hunters have made a huge difference on behalf of wildlife (Patrick J. Graham, November/December).

# SO YOU SAY YOU'D LIKE TO SEE A WOLVERINE?

*Editor's Note—We don't usually publish letters this long, but this one from Joe Gutkoski of Bozeman was too good to pass up. An avid hunter and fisherman, Joe had a 32-year career with the U.S. Forest Service and is on the front line of environmental activism.*

For a long time I had wanted to ski the 9,000-foot plateaus of the Spanish Peaks [south of Bozeman], and in March of 1996 I gave it a try. I waded the Gallatin River at Burnt Creek carrying a heavy winter pack plus skis, poles, and double-leather boots. There was slush ice anchored on the bottom of the river and the icy water was deeper than I expected, but my heavy pack, ice creepers, and stout wading pole saved me as I carefully planted each step. I cached my waders where I could find them on my return and hoped the squirrels wouldn't chew holes in them.

It was a long day's work to climb the ridge to the plateau. Deep snow covered the windfall logs, making skiing easier. I used plastic snakeskin climbers on the bottom of my skis—these are great in steep terrain. When I finally made the top, a strong, cold wind was blowing out of the west. The plateau was scoured with a ground blizzard of eroded snow and fine sand. One night of this was enough. The next day I skied down into the Middle Fork of the Burnt Creek Basin, then up toward the cirque basin. About mid-day I selected a large old-growth spruce for my night camp.

I then skied up the drainage 2 miles toward the basin headwall. Near the toe of the snow avalanche path I came upon some wolverine tracks. They climbed up into the headwall and circled back to where I stood. I followed the tracks and studied them through binoculars while trying to puzzle out what the wolverines were doing. I finally found two tunnels in the snow at the low point of the cirque. The tunnels were well within the avalanche runout zone above 9,000 feet in elevation. The two snow holes were about 6 feet apart and 15 inches in diameter. Elk and wolverine hair was plastered around the entrances. I guessed the wolverines might be down there in a natal den with kits. I suspected there was a dead elk lying under the 6 feet of snow, and the wolverines were eating the carcass while raising their kits.

I figured that if I was ever going to get photos of wolverines, I had better take advantage of this opportunity, so I backed off to a place where I could view the tunnels without disturbing the den and hunkered down to wait. I could only stay motionless for about an hour, then I'd ski out of sight and flail my arms and run in place to generate body heat. Warmed up a bit, I'd sneak back and wait some more. It began to get colder and to snow lightly. It was about 1-1/2 hours to my pack, but the route was all downslope and I knew I could ski back in my track with the light of a head lamp. Before heading back I tied a plastic ribbon to the top of a fir in case drifting snow covered the den holes during the night. I planned to return in the morning and try again.

When I arrived back at the big spruce tree, I used a small saw to cut out a place for my bed next to the trunk of the tree. I tramped down the snow with my skis and laid live spruce boughs down for my bed and saved the dead branches for a cooking fire. I built the fireplace base with larger branches, logs, and bark slabs and had a good fire on top of 3 feet of packed snow. Soon the pot was boiling with sliced Polish sausage, minute rice, prunes, and raisins. When it was cooked, I added powdered milk and sugar. This slumgullion stew is simple to prepare, goes down easy, and gives me some fat for heat through the long, cold night.

The snow was coming down harder, so I rigged my 8X10 Visqueen shelter to protect me as I slept. I put on all the clothes I had with me: two suits of long underwear, down pants and jacket, nylon windsuit with hood and pants, and a heavy wool hat. I allowed the small fire to burn down and crawled into my down bag with a nylon bivisack cover that has served me well for 30 years. I placed my ski boots inside the bag to keep them from freezing and settled in.

I slept well and got up at first light. I thought about the prospect of skiing two or more hours back up to the wolverine den in 12 inches of new snow. But it was still snowing and I was due home that evening, so I decided to turn around and begin the long trek out.

I didn't get back into the basin until July of 1996. I easily found the plastic flagging I had tied to the top of the fir. It was 12 feet above the ground. Under it was a neat 4-inch thick mat of elk hair, about 4 feet by 5 feet, with no skin attached. I poked through the elk hair and found only one small shard of chewed bone. The wolverines must have consumed, under the 6 feet of snow, all of the elk tissue, skin, bone, and intestines. I searched a 100-yard circle and couldn't find any long bones, skull, teeth, or hooves. They must have eaten everything or carefully hidden what was not consumed.

In my 47 years of traveling the Montana mountains, I have only seen two wolverines. One was 5 miles from the site of the den holes in the upper basin of the North Fork of Burnt Creek. I was elk hunting when a wolverine came loping along an elk trail. When he was directly below me, about 90 feet away, he caught my scent, became excited, and began to run forward, then backward, then forward again. He finally located me and hurried out of sight. I consider it a rare privilege to see a wolverine. I hope this little description helps our biologists with further understanding of wolverine behavior.—*Joe Gutkoski, Bozeman*

# BOOKSHELF

**LEARNING TO TALK BEAR, by Roland Cheek, Skyline Publishing Co., P.O. Box 1118, Columbia Falls, MT 59912 (406-892-0123); 1997, 320 pages, soft cover, $19.95 postpaid.**

During 20 years as a guide and outfitter in the Bob Marshall Wilderness, Roland Cheek was bound to bump up against a grizzly bear now and then. At first, he had his mind set on a grizzly rug. But when his chance finally came—an easy shot at a magnificent bear in the days when Montana still had a limited grizzly bear season—he turned it down, and wasn't sure why. He says, "...my regard for the animals bounced about like a yo-yo. First my attitude was uneducated fear, then armed disdain that eventually led to unarmed, unreasoned fear. From there it was transformed to unbridled admiration that led to what approached blind homage for the cuddly creatures. Then it turned into grudging respect, and probably a creeping suspicion that I really didn't know what to think about an animal that was edging deeply into my soul." He began talking with the biologists who study grizzly bear behavior, and gathering information on the great bears wherever and whenever he could. His book, a fast-paced blend of first-person accounts and the results of recent grizzly bear research, provides valuable insights into what humans must do to live with bears, and why.

**THE VENISON COOKBOOK, by Eileen Clarke, Voyageur Press, P.O. Box 338, Stillwater, MN 55082 (1-800-888-9653); 1996, 128 pages, hard cover, $24.95 plus $3.95 shipping.**

Packed with over 100 recipes for all types of venison, including deer, caribou, moose, bighorn sheep, elk, and pronghorn, this book is a must for big game hunters. The recipes range from quick camp meals to exquisite gourmet dishes. Because, as the author points out, the art of wild game cooking is not only in the preparation of the meals but in the care and handling of game, the first section deals with field dressing, aging, skinning, and butchering. It also contains interesting statistics on the value of venison for maintaining a healthy, low-fat diet. The book is illustrated with color photos of many of the dishes taken by the author, as well as wildlife photos taken by Erwin and Peggy Bauer.

**SPIRIT OF THE WILDERNESS, compiled by the Boone and Crockett Club, Old Milwaukee Depot, 250 Station Drive, Missoula, MT 59801-2753 (406-542-1888); 1997, 400 pages, hard cover, $29.95 plus 4.25 shipping.**

Stalking wild sheep, tracking a trophy cougar, hiking the backcountry of British Columbia, fishing for striped bass, and coming face to face with a grizzly bear are some of the wilderness adventures included in this anthology. Contributors include General H. Norman Schwarzkopf, Theodore Roosevelt IV (great grandson of President Theodore Roosevelt), Prentiss N. Gray, Dr. William MacCarty, Paul D. Webster, and others. *Spirit of the Wilderness* is the eighth in the Acorn series of outdoor adventure books begun in 1893 by Boone and Crockett Club founders Theodore Roosevelt and George Bird Grinnell.

**MEASURING AND SCORING NORTH AMERICAN BIG GAME, 2ND EDITION, compiled by the Boone and Crockett Club, Old Milwaukee Depot, 250 Station Drive, Missoula, MT 59801-2753 (406-542-1888); 1997, loose-leaf binder, $34.95 plus $4.25 shipping.**

This new 17-chapter edition includes chapters on how to score all 35 big game categories recognized by Boone and Crockett, history of the Boone and Crockett Club and its records program, club policies relating to Fair Chase, and a description of the club's wildlife conservation program. Published in a convenient loose-leaf binder so updates and supplements can be added as they become available, this 8-1/2 by 11-inch manual is used by all B&C official measurers.

**THE RUT, by Ron Spomer, Willow Creek Press, P.O. Box 147, Minocqua, WI 54548 (1-800-850-9453); 1996, 160 pages, hard cover, $35.00.**

This large-format book presents the endlessly varied and complex fall rituals of North American horned and antlered animals in text and photos. Fall is the time when bull elk are bugling and sparring, deer are conducting elaborate scent marking and rubbing rituals, and bighorn rams are colliding with one another with incredible force. Ron Spomer has documented the action with 100 dramatic color photographs and described the origins and reasons for this seemingly bizarre behavior in biologically accurate but clear prose that laymen will appreciate. Spomer is a photojournalist who specializes in wildlife and outdoor subjects.

**TRAVERS CORNERS, by Scott Waldie, Lyons and Burford, Publishers, 31 West 21st Street, New York, NY 10010; 1997, 186 pages, hard cover, $25.00.**

In this remarkable collection of stories about flyfishing, Scott Waldie has captured the essence of a small Montana town and the characters who live there. The stories may be fiction, but the flyfishing action rings true and the folks who inhabit this Montana version of Lake Wobegon are real enough. You'll meet Jud, who left to travel the world and returned to build boats and flyfish, Junior, the general store owner who has a thorough knowledge of flyfishing and no discernible skill, and a whole cast of others. Written with warmth and wit, these stories will make you long for a second home like Travers Corners.

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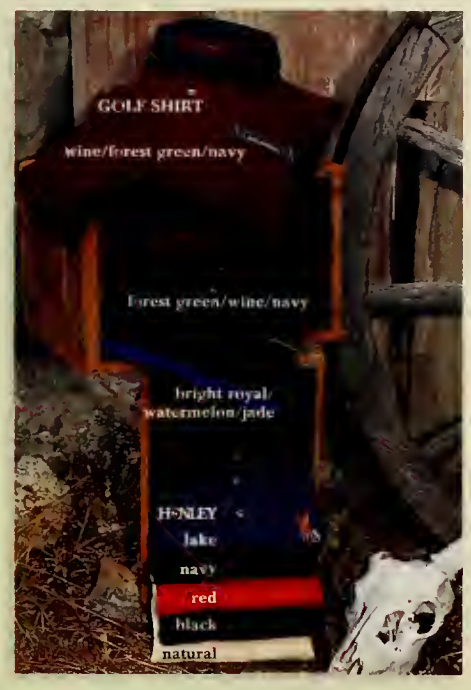


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# Contributors

*Charles*

It's easy to take hunting and fishing for granted, says **Alan Charles**. Most of us don't think twice about hiking up a ridge to look for an elk or packing a sack of goose decoys into a stubblefield. But for Montana's physically-challenged outdoorsmen and women, just getting afield can present huge obstacles. His article, "Meeting the Challenge" (p. 2), describes FWP's licensing program for disabled persons and offers ideas on how all of us can become more aware of the needs of those who might not have the same opportunities we have. It also includes the perspectives of two Montanans whose lives—and the challenges they face as outdoorsmen—were dramatically changed by auto accidents. Charles is FWP's landowner/sportsman coordinator in Helena.

*Carty*

What kind of masochistic birds migrate to Montana to spend the *winter*? Hungry ones from the Far North, says **Dave Carty**—snowy owls, snow buntings, gyrfalcons, rough-legged hawks, and other birds that breed in or near the Arctic Circle. When rodent populations crash or when deep snow makes food hard to come by in their summer home, a number of northern birds head south to balmy Montana. But by March or April most of these "Winter Visitors" (p. 7) have already begun drifting back north. "Hard to imagine they wouldn't want to spend a summer here," says Carty, "when we could really show them the sights." Carty is a free-lance writer who summers—and winters—in Bozeman.

When two far-sighted legislators named Pittman and Robertson pushed the Wildlife Restoration Act through Congress in 1937, not even they could have foreseen the tremendous benefits it would provide over the next half-century. White-tailed deer, antelope, elk, bighorn sheep, moose, and turkeys are just a few of the species helped back from perilously low levels by this landmark legislation. **William Phippen** points out that we can thank sportsmen and women, primarily hunters, for the almost $2.5 billion that has been funneled into wildlife management, habitat acquisition, research, and hunter education since the act's inception through an excise tax on sporting arms and ammunition. Phippen, whose article commemorating the 60th anniversary of the Wildlife Restoration Act begins on page 13, is an information officer at FWP's Helena headquarters.

*Kuntz*

Southwestern Montana's upper Blacktail country is even less settled by humans now than it was a hundred years ago, says **Bernie Kuntz**, and that's why a trip to the Gravelly-Blacktail Wildlife Management Area is like "Stepping Back in Time" (p. 17). Purchased in 1972, the WMA's 18,000 acres extend to the very top of the Snowcrest Range. More than 2,000 elk from the surrounding area, some coming from as far as the western edge of Yellowstone National Park, winter on its expansive, grassy slopes. The area is also home to antelope, moose, deer, grouse, and many other wildlife species, says Kuntz, who authored this issue's "Lands Legacy" installment. Kuntz is the regional information officer in FWP's Bozeman office.

For a youngster, learning to hunt ducks is a process that should involve a hunter education course as well as hands-on tutoring from adults well-versed in waterfowling techniques. But in his case, says **Jerry McGahan**, things didn't quite work out that way. He missed out on hunter education, and his stepfather didn't hunt, so he bought a Western Field 16-gauge shotgun for $68 from Montgomery Ward and taught himself. He did, however, have the benefit of painful "oversight" from a pair of crusty Livingston taxidermists. For the complete story of a young hunter's bittersweet initiation into the waterfowling fraternity, turn to "One that Counts" on page 21. McGahan, whose love for all things wild eventually led to a Ph.D. dissertation on Andean condors, is a beekeeper and novelist who resides in Arlee.

*MO* thanks the following photographers for their contributions to this issue: **Mike Barlow**, Livingston; **Denver Bryan** and **Dusan Smetana**, Bozeman; **Gene Fischer**, Helena; **Donald M. Jones**, Troy; **Gary Kramer**, Willows, CA; **Bill Marchel**, Fort Ripley, MN; **Gary Noland** and **Conrad Rowe**, Seeley Lake; **John G. Obrey**, Jr., Salt Lake City, UT; **Jim Petek**, Red Lodge; **Michael S. Quinton**, Slana, AK; **Jeffrey Rich**, Millville, CA; **Rodney Schlecht**, Great Falls; and **W. Steve Sherman**, Dillon. Thanks also to **Fred King** who works for the department in Bozeman.

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